Republic of the Philippines
Department Of Agriculture

SUGAR REGULATORY ADMINISTRATION

2016 ANNUAL REPORT

CORPORATE OBJECTIVES

The Sugar Regulatory Administration (SRA) was created by virtue of Executive Order No. 18 s. 1986 which declares that: *"it shall be the policy of the State to promote the growth and development of the sugar industry through greater and significant participation of the private sector and improve the working conditions of laborers"*.

RA 10659 or the Sugarcane Industry Development Act of 2015 further declares the policy of the State to promote the competitiveness of the sugarcane industry and maximize the utilization of sugarcane resources, and improve the incomes of farmers and farm workers, through improved productivity, product diversification, job generation, and increased efficiency of sugar mills.

In order to carry out the foregoing policies of the State, the SRA shall operate with the following objectives"

1. *To institute an orderly system in sugarcane production for the stable, sufficient and balanced production of sugar, for local consumption, exportation and strategic reserves;*

2. *To establish and maintain such balanced relation between production and requirement of sugar and such marketing conditions as will ensure stabilized prices at a level reasonable profitable to the producers and fair to consumers;*

3. *To promote the effective merchandising of sugar and its by-products in the domestic and foreign markets so that those engaged in the sugar industry will be placed on a basis of economic viability;*

4. *To undertake such relevant studies as maybe needed in the formulation of policies and in the planning and implementation of action programs required in attaining the purposes and objectives set forth under E.O. 18 s. 1986.*

5. *To implement productivity improvement programs such as block farming, farm support initiatives like farm management, technical assistance and socialized credit, farm mechanization, research and development, and extension services to promote the competitiveness of the sugarcane industry and maximize the utilization of sugarcane resources and improve incomes of sugarcane farmers and workers.*

6. *To establish a supply chain monitoring system from sugarcane to sugar at the retail level to ensure sufficiency and safety of sugar.*

MANDATE

The legal mandate of SRA is embodied in Executive Order No. 18 dated May 28, 1986 creating the Sugar Regulatory Administration. It states that the policy of the State is to promote the growth & development of the sugar industry through greater participation of the private sector and to improve the working conditions of the laborers.

Further, Republic Act 9367 s. 2006 (Biofuels Act of 2006) mandated SRA, as member of the National Biofuel Board (NBB), to develop and implement policies supporting the Philippine Biofuels Program and ensure security of domestic sugar supply.

Furthermore, Republic Act 10659 otherwise known as the "Sugarcane Industry Development Act of 2015" mandates SRA and other government entities to promote the competitiveness of the sugarcane industry and maximize the utilization of sugarcane resources, and improve the incomes of farmers and workers, through improved productivity, product diversification, job generation and increased efficiency of sugar mills.

VISION

"By 2020, SRA as an empowered government organization ensures long-term viability, environmental sustainability and global competitiveness of Philippine sugarcane industries through greater and significant participation of the stakeholders."

MISSION

"To provide stakeholders of the Philippine sugarcane industries with pro-active and effective policies, regulatory, R&D and extension services."

CORE VALUES

Integrity	We employ the highest ethical standards, demonstrating honesty and fairness in every action that we take.
Innovativeness	We deliver public service to the stakeholders of the sugarcane industry in a creative way, anticipate change and capitalize on emerging opportunities.
Competence	We will strive to deliver public service effectively by improving our knowledge base socially, environmentally and technically.
Professionalism	We treat others with the highest degree of dignity, equality and trust and respect their beliefs and rights as fellow public servants and stakeholders of the sugarcane industry.
Accountability	We take responsibility for our performance as public servants and compliance to legal requirements pursuant to government rules, regulations and existing laws.

STRATEGIC GOALS
(2013-2016)

Pro-active and effective policies and regulations
to ensure viability, food safety, environmental sustainability & global competitiveness of the sugarcane industry;

Product diversification, development and promotion;

Responsive technical assistance & extension services to sugarcane industry stakeholders;

Environment-friendly and innovative R & D technologies for the sugarcane industry stakeholders;

Sustained development of expertise & human resources in the field of sugarcane industry development and related areas;

Empowered SRA supportive of its Vision, Mission & Goals.

DIRECTORY OF SRA KEY OFFICERS

SRA OFFICIAL/ DESIGNATION	DEPARTMENT	CONTACT NUMBER/s	EMAIL ADDRESS
MA. REGINA BAUTISTA-MARTIN Administrator & Co-Chair, Sugar Board	Office of the Administrator	929-3633 Fax: 455-3376/	srahead@sra.gov.ph srachief10@yahoo.com
Atty. JESUS L. BARRERA Board Member, (Miller's Sector)	Office of the Administrator	455-2518	brd_mill@sra.gov.ph
PABLITO S. SANDOVAL, Sr. Board Member, (Planter's Sector)	Office of the Administrator	Telefax: 455-8245	brd_plnt@sra.gov.ph bispmpc@yahoo.com
AIDA F. IGNACIO Deputy Administrator	Office of the Administrator	924-4034 Telefax: 455-1589	dep_adm@sra.gov.ph aida.fi51@yahoo.com
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MARY ANTOINETTE S. TAMPO Manager III	Regulation Dep't., Visayas	(034) 435-1470	mast2804@yahoo.com

BIOGRAPHICAL DETAILS OF THE SRA BOARD

NAME & DESIGNATION	AGE	QUALIFICATIONS	DATE OF FIRST APPOINTMENT	RELEVANT EXPERIENCE
MA. REGINA BAUTISTA - MARTIN *Administrator and Co-Chair Sugar Board*	54	– Ph.D. in "Program Development Management" (1987)	08/17/2010	• Managing Director/ Secretary – *Association de Hacienderos Silay-Saravia, Inc.* (HHSSI) • Board of Trustee –Sugar Industry Foundation Incorporation (SIFI) • Chairperson – Phil. Sugar Corporation (PHILSUCOR) • General Manager – BJB Agro-Industrial Co., Inc.
PABLITO S. SANDOVAL, Sr. , *Board Member* Planter's Sector	61	– B.S. Agriculture (1981) – M.S. in "Soil Microbiology & Sugarcane Agronomy" -UPLB	11/02/2010	• Exchange Scientist sponsored by Japan Society for the promotion of Science (1984) • Exchange Scientist sponsored by Japan International Agency (JICA) - 1988 • Research Associate in the National Institute of Biotechnology, UPLB • Distinguished Alumnus Awardee UPLB – 1996 • Outstanding Sugarcane Farmer, DA Region IV, 2001 • Presidential *Gawad Saka* Awardee – *"Most Outstanding Sugarcane Farmer of the Philippines"* – 2001
Atty. JESUS L. BARRERA *Board Member* Miller's Sector	42	– B.A. Political Science – UST (2000) – Bachelor of Laws (LL.B.), UST (2004)	01/27/2012	• Consultant – Office of the Administrator • Corporate Legal Officer & Policy Adviser – Phil. Sugar Millers' Association (PSMA) • Legal Adviser – 1) San Julio Realty, Inc.; 2) Gamboa *Hermanos* Agricultural Cooperative; 3) Ethanol Producers Association of the Philippines (EPAP)

HIGHLIGHTS OF ACCOMPLISHMENTS

REGULATION DEPARTMENT

Luzon/Mindanao

Monitoring of Production, Withdrawals, Stock Balance of Sugar

For the year 2016, the Regulation Department continuously monitored the status of sugar production as basis for policy making of the Sugar Board.

For Crop Year 2015-2016, "B" sugar was allocated 100% to the domestic market to accommodate the demands for domestic consumption due to an estimated domestic withdrawal of 2.25 MT. The total raw sugar production was estimated to be less than the initial projection of 2.25 MMT production. The 100% allocation was also done due to the unfavorable forecast of weather condition as well as to protect the local supply and prevent sugar price increase.

Like the previous Crop Year, there was no amendment in the allocation until the end of Calendar Year 2016. However, an Export Sugar Replacement Program was issued before 2015 ended in which under this program, it allows the export of "B" sugar to the US market to fulfill its quota commitment, allowing a replacement ratio of 1:1:25 for every 50 kilo bag exported to the US quota with the volume of 169,385 MT.

The final raw sugar production for CY 2015-2016 reached 2,238,872 Metric Tons (MT) which registered a 3.66% decrease from the previous crop year's record of 2,323,817. On the other hand, final production of refined sugar was at 19,146,629; which is 11.06 % lower compared to last year's 21,527,634 LKg bags.

As of December 31, 2016 (of Crop Year 2016-2017), 560,606 MT of raw sugar was produced; down by 22 % from last year's 716,451 MT. One of the factors for this could be attributed to the late start of milling operations in Luzon and Mindanao.

Final Domestic Raw B Sugar Withdrawals for CY 2015-2016 were posted at 2,163,170 MT**;** 6.79% decrease from last CY's 2,240,805 MT probably due to high fructose corn syrup (HFCS) importations**.**

Refined sugar production as of December 27, 2016 was at 3,021,595 LKg bags compared to last year's 5,314,523. Withdrawals as of the same date decreased by 23% wherein it posted 4,742,710 LKg bag compared to the same period last year with 6,147,519 LKg bags. Stock balance was at 4,381,470 LKg higher by 18% lower compared to the same period of last year's 3,701,265 Lkg bags which can also be due to the presence of HFCS imports.

Molasses production was at 1,062,891.180 MT which is higher than last Crop Year's 979,563.653 MT. Production as of December 25, 2016 for Crop Year 2016-2017 was at 237,638.882, which is 21% lower than the same period last year at 301,117.456 MT.
On the other hand, molasses withdrawals were at 207,236.177 MT; 3% lower compared to last year's 214,678.869 MT. Molasses stock balance was 10% lower at 202,192.667 MT compared to last Crop Year's 225,284.881 MT.

Tons cane milled was recorded at 6,490,734 MT which is lower than last year's 7,959,453 MT while LKg/Ton Cane (TC) was at 1.77 LKg TC compared to last year's 1.88 LKg TC.

As of December 31, 2016, twenty seven (27) mills have already registered. Twenty (22) mills have started operations. Thirteen (13) refineries were given license to formally open its business operations while only six (6) refineries have started operations.

Sugar Prices Monitoring

Weekly monitoring of sugar prices in the Millsite, Metro Manila groceries, supermarkets and retail stores were done to check if prices are increasing or decreasing to make measures in maintaining prices at a reasonable price for consumer protection.

Millsite prices of sugar in January initially averaged at P1,836.84. In December, millsite prices went down to P1,525 compared to last year's P1,811; a 17% decrease probably due to High Fructose Corn Syrup (used as substitute for sugar) importation, Export Replacement Program and the Milling Season had just started.

The prevailing wholesale price of refined sugar was at P2,580 beginning January compared to P2,170 of the same period last year. The prevailing retail price of refined sugar was maintained at P56/kilo throughout the year; a peso higher than the same period of last year's P51.50/kilo. In general, our "B" sugar price maintained its stable state.

The Philippine average millsite price of Molasses during the first month of the year was at P 8,806.72 per MT compared to the same period the previous year at 9,022 per MT. It ended the year with a price of P9,193 registering an 11% increase from 2015's P8,200.00.

Export Sugar (US Market/World Market)

For this year, the Sugar Transaction Division processed a total quantity of 135,608 MT as part of the Philippines' commitment to the US and Export Replacement Program for CY 2015-2016. The agency earned P6,780,401 for clearance processing while the Philippines earned S71,291,554 for the above quantity exported to the US.

On the other hand, the total quantity of 402.50MT was exported to the World Market earning P20,125 and S341,405 to SRA and the Philippines, respectively.

For Crop Year 2016-2017, the United States of America has allocated to the Philippines the quantity of 136,201 MT for quota year 2016-2017.

Export/Imported Molasses and Muscovado

The total quantity of imported molasses this year was 470,386.05 MT which is 43% higher than last year's 264,783.17 MT with a total revenue of P188,154,421.20. No export molasses was recorded this year.

The total quantity of muscovado export was 2,348.25 MT higher than last year's 1,952.93 MT with an export processing fee of P78,720.00.

Food Processors, Customs Bonded Warehouse (CBW) Imported Allocation

The volume of sugar allocation granted to food processors this year was 68,980 MT which is lower than last year's 69,470 MT. Said decrease could be attributed to the effect of El Niño on the dried mango production and no production allocation of "D" or World Market sugar availed by non-CBW food processors. Meanwhile, withdrawals of Imported Sugar recorded for the year was 62,649.77 MT which is higher than last year's 56,494.55 MT. Monitoring Fee collected was P31,324,885.

Other Regulatory Services

The Regulation Department through its Sugar Transaction Division (STD), Licensing and Monitoring Division (LMD) and Sugar Regulation and Enforcement Division (SRED) also processed and issued the following applications during the year:

24	*Certificates of Quota Eligibility (CQE) to Traders*
17	*Certificates of Origin (Total Earnings P1,355,080.10)*
180,090	*Verifications and attestations of sugar quedans, molasses certificates and sugar release orders (SRO)*
123	*Food Processors with liquidation of Imported Sugar*
139	*Applications for reclassification "C" to "B" under ERP*
10	*Regular Swapping applications*
14	*Certificates of Exchange Authority (P183,004.26)*
99	*Certificates of Sugar Requirements of Food Processors (P64,000.00)*
521	*Imported Sugar Clearances* *Customs Bonded Warehouse (CBW), Imported Sugar Raw & Refined (207,479,834.06)*
206	*Export clearances (22 US Sugar, 20 World Market, 0 Molasses and 164 Muscovado)*
597	*Import clearances (521 Imported Sugar Raw & Refined and 76 molasses)*
27/13	*Licenses to sugar mill/refineries (P121,000.00)*
259	*Registration certificates of sugar/molasses/muscovado traders (Total earnings P3,965,000.00)*
126	*Shipping permits*

OTHER COLLECTIONS

Regulation Officers (ROs) assigned in the field also helped in terms of collection of liens for the agency. For this year, the agency generated more than P61.2 million collections.

ACTIVITIES FOR THE YEAR

PUBLIC AUCTION. 55,750 Lkg bags of undocumented imported sugar were shipped into the country through Bureau of Customs (BOC) accredited importers/companies during the year wherein the said commodity was declared as general merchandise and have no import clearance released by SRA.

Inspections and sampling of the apprehended sugar for laboratory analysis were conducted by the Licensing and Monitoring Division and SRA Laboratory chemists to determine its quality and safety.

To date, there are two (2) remaining 1x20 container vans for auction in MICP and Subic Ports and 46 LKg bags with bad odor and another 1,004 Lkg bags declared damaged from Industrial Park transferred to BOC Warehouse No. 159 (for non-fuel ethanol production) that are awaiting schedule for public auction.

PHYSICAL SUGAR STOCK INVENTORY. Seventy two (72) sugar stock inventories were conducted at food processors' warehouses in different parts of the country. As a result said inventories, actual physical sugar at warehouse reflect the same with the SRA count. However, some were advised to reflect in their warehouse ledger the imported clearance number of their sugar withdrawals to avoid confusion on the part of the Licensing and Monitoring Team as well as the food processors.

SUGAR STOCK INVENTORY Regulation Personnel (RD) and Internal Audit Staff conduct sugar stock inventory for food processors with approved allocation to check the actual number of stocks against SRA ledger inventory to be filled up by the food processor's assigned warehouseman. The SRA Clearance number, sugar markings must also reflect in the ledger.

The SRED also conducted and verified physical sugar stock inventory in the mills and refineries and reconciling the same with the quedans that are still outstanding. For this year, 10 mills and 6 refineries in the Luzon/Mindanao area were put under inventory for physical sugar and molasses stock. Prior to the start of the milling season and as part of requirements of SRA, mill scales in mill districts covering those in Porac, Pampanga, Tarlac, Balayan, Batangas, Maramag and Quezon, Bukidnon were calibrated with the presence of mill, planter and SRA representative. Calibration is done as an assurance of integrity and accuracy of the mill scales.

For this year, 44 weighing scales in Mill Districts were calibrated in which all representatives attested their signatures on the SRA Seal which were affixed on each of the weighing scales for purpose of security.

TRADERS OFFICE and WAREHOUSE VISIT. Forty nine (49) warehouse and office inspections were done as one of the requirements in verifying the authenticity and legitimacy of new applicants. All new applications were processed except for one (1) sugar trader it was not favorably acted upon due to the investigation conducted by SASO on the alleged involvement of the company on sugar smuggling activities.

PREMIX SAMPLING. Thirty Seven (37) premix sampling covering mostly whey products and food supplements were conducted during the year were coordinated with importers/consignees for laboratory analysis to check the presence of sucrose. Majority of the samples were not detected with sucrose content but there were also some products detected with above 65% sucrose content. The rest of the samples have lower percentage content of sucrose.

Prior to the withdrawal of products from the Bureau of Customs (BOC), importers paid for clearance and monitoring fees of its products containing 65% by dry weight of sugar. Mostly about 180,090 Premix Commodity Clearance were processed composed of baking products, beverage concentrate, flavorings, sweetener, vitamin mineral premix, candies, various syrups, whipping cream, etc. giving the agency an P18,484,996.35 earnings.

PREMIX SAMPLING *Ms. Emelyn Ma. Bernardino collects samples of Sunrider products for laboratory analysis that fall under 2106 Food Supplement category. The said products are Quinary capsules in a bottle container, Fortune Delight Lemon concentrated beverage in powder box and Calli Night tea bags in a box.*

CAPABILITY BUILDING. For personal and career upgrading, RD personnel also attended seminars and trainings. Among these were on Integrity, Transparency, Accountability in Public Service (ITAPS), Competency Based, Total Excellent Customer Service Seminar, Transition Course for ISO 9001-2008 to ISO 9001-2015, Basic WSM Training and Retail Competition and Open Access Training,

Supervisory Development Course Track I, Change Management, Planning Conference and Budget Hearing, Annual Regulation Conference and Procurement Seminar.

ISO QUALITY MANAGEMENT SYSTEM. Requirements for ISO 9001:2008 were diligently complied for ISO Quality Management System as required by the Governance Commission for Government-owned and Controlled Corporations (GCG). It has conformed in the review of SRA operations and identified vital processes in creating quality culture within SRA to encourage client satisfaction and continual improvement in the system in conformity to applicable statutory and regulatory requirements subject for standardization and accreditation. As a result, this contributed in the over-all grant of SRA for the ISO Quality Management System this year. A surveillance audit was scheduled for next year.

VISAYAS

SUGAR REGULATION AND ENFORCEMENT DIVISION

1. Verified and collected a total of Php134,884,259.64 as payment for sugar liens, and raw and refined sugar monitoring fees.

2. Full collection of BRDE Liens from SCBI, Kooll Company, ROXOL Bioenergy Corporation, URC-Ursumco and Leyte Agri, in the amount of Php7,780,884.93 representing 112,302,570.00 liters of bioethanol produced/sold.

3. Full implementation of Molasses Order No. 1, dated February 2, 2016, series of 2015-2016 with 217,056 pieces of molasses certificates checked, verified and signed.

4. Full implementation of Lopez Sugar Corporation molasses adjustment/correction on molasses physical stocks shortage in the quantity of 6,207.014 metric tons in the SMS Form No. 3 due to the surrendering of the equivalent molasses certificates dated January 13, 2016.

5. Recommended to the Sugar Board the imposition of penalty on the sugar discrepancy of URSUMCO of 8,795.67 Lkg bags in violation of Sugar Order No. 10, section 4.6 and section 8 with a monetary value equivalent to such offense.

6. Conducted orientation/workshop seminar re: SRA policies, rules and regulations to three (3) Panay mill districts which earned positive reviews and feedbacks from millers and planters, for the informative, clarificatory and interactive presentations.

7. Reduction of SRA penalty impositions to mills which previously violated SRA policies. This is due to the diligence in monitoring, enforcement and implementation of office rules and policies by SRED personnel.

8. Attendance of 10 personnel to the Regional Conference of the Regulation Department-Luzon & Mindanao in SRA Quezon City with the theme: "Lead and Succeed!". This conference as a whole, had a positive turnout in the professional growth and total makeup of all Regulation Officers of Visayas in the pursuit of responsive and efficient services to the sugar industry for economic stability in the country, in general, and stakeholders, in particular.

9. Conduct of orientation/workshop seminar re: Molasses Sounding, Sampling and its Laboratory Analysis, which gave our staff the opportunity to acquire practical knowledge and skills when conducting volumetric estimation of molasses. While the laboratory parameters brought confidence and deeper understanding of the value of the commodity as it is converted to ethanol. A source of income for SRA. Overall this levelled up the quality of our personnel's monitoring.

10. Attendance of 7 personnel to RD&E's OPSI Seminars for 2016 which provided valuable learnings on sugarcane culture, farming practice and personnel growth which adequately armed our Regulation Officers in the dispense of their duties and responsibilities as frontliners of the sugar industry.

LICENSING AND MONITORING DIVISION

1. Processed / Facilitated issuance of 162 licenses to various traders amounting to Php2,070,893.83.
   Issued 17,934 shipping permits to various shippers/traders amounting to Php24,612,842.46.
2. Monitored sugar exports at different loading ports:
   "A" Sugar *31,000.000 MT*
   "D" Sugar *240.000 MT*

3. Sealed and Monitored 4,000 (Raw) Lkg. Bags and 800 Lkg. Bags (Muscovado) "D" Sugar Shipments
   Sealed and Monitored 0.00 Lkg. Bags "E" Sugar Shipments
4. Monitored/Inspected 304,000.00 Lkg. Bags imported sugar in CBWs.
5. Verified export documents of CBWs with documents issued by Bureau of Customs.
6. Monitored 101,610.623 MT Molasses import shipments and 63,268.0714 MT local molasses at bulk terminals
7. Monitored sugar and molasses prices in Visayas area.
8. Monitored 10 warehouses of sugar traders in Visayas area; Inspected 15 Office/Warehouses of Trader Applicants.
9. Facilitated processing of milling permits of 5 sugar mills.
10. Conferred with CBW Processing Plants representatives regarding submission of utilization reports, warehouse stock inventory ledgers and other documents pertaining to their product for export.
11. Monitored/inspected imported sugar arrivals and releases for CBWs.

RESEARCH, DEVELOPMENT & EXTENSION

LUZON/MINDANAO

It can be said that 2016 signaled one of the most challenging phases in the RD&E Department- with the passing of the Sugarcane Industry Development Act (SIDA) Law under R.A. No. 10659 on March 27, 2015 and its actual implementation when the fund (SARO) was released on June 23, 2016.

Actually, even before the SIDA Law got approved, RD&E activities were already aligned with the key strategies and program areas identified in the SRA Sugarcane Industry Roadmap- Block Farming, Farm Mechanization, Farm to Mill Road Improvement, Soil Fertility Mapping, Irrigation and Drainage Improvement, High-Yielding Variety (HYV) Propagation, Installation of Automated Weather Stations (AWS), Capacity-Building and Skills Development and Mills Improvement.

RD&E people have to double their efforts to meet the demands of a changing industry especially at the start of the second semester when some of its key personnel availed of the early retirement privilege offered by the agency. So much has to be done given the requirements of the QMS, GCG target and the implementation of the SIDA-related projects. On top of this, the department has to live to its commitment in providing the stakeholders research, development and extension services---technical, laboratory and farm/agricultural (its regular activities) and in maintaining linkages with SUCs, government agencies and private institutions.

The Office of the Manager III oversees the implementation of all RD&E activities---the plans, programs, projects and operations for the Luzon and Mindanao areas. The Officer-In-Charge (OIC) act as the Head of the Technical Working Group (TWG) for the SIDA RD&E projects synchronizing all the activities and collaboration with other partner agencies.

Below are the highlights of the RD&E's accomplishments for 2016 as reported by its various section:

TECHNICAL SERVICES SECTION

In 2016, the Technical Services Section of the Research, Development, and Extension Department soared in performing various functions that were assigned to them. Members of the technical staff were deployed in the different mills to conduct technical investigations, observations, monitoring, measurements and audits. They also attended workshops to strengthen the section's capability in mill audits and leadership. Technical and administrative reports were also submitted as required.

The services the technical team conducted mostly zeroed in on technical inquiries, planters' milling concerns, data/information dissemination rendered to millers, planters, industrial sector, the academe and other researchers. The section is also equipped with

publications that feature important data on production and performance statistics of all sugar mills and refineries in the country. Among its completed publications are the Annual Synopsis of Philippine Raw Sugar Factories' Production and Performance Data C.Y. 2014-2015 and the Annual Compendium of Philippine Sugar Refineries F.Y. 2015. The continuing projects and corresponding mills audited for this year are as follows:

Capacity & Efficiency Audit	*- HIDECO, CARSUMCO, BISCOM*
Energy Audit	*- URC-Passi, BOMEDCO, Lopez Sugar*
SAGE Monitoring	*- CAT, URC-SURE, CADP, PENSUMIL, CARSUMCO, VMC, San Carlos, Roxol Bioenergy, Sweet Crystal*
Equipment Audit	*- PENSUMIL, CAC, Sweet Crystal, CADP, URC-SURE, OPTION- MPC, HPCo, CAB, Lopez Sugar, VMC*

The section's personnel participated as well in several meetings, mostly project-oriented and audits. As part of strengthening RDE's capabilities, a total of nine seminars/workshops and three administrative reviews were attended by the staff.

Activities undertaken by the Technical Services Section for 2016 were:

Capacity and Efficiency Appraisal of Sugar Mills

The capacity and efficiency appraisal is a technical assessment that gives a clear scenario of the plant's equipment and efficiency profile. It enables the authorities to draw conclusions as to where improvements and rectifications should be applied.

The capacity audit intends to evaluate the conformity of the individual capacities of the respective equipment making up a workshop. The efficiency audit, on the other hand, aims to establish the efficiency of individual equipment/workshop as well as the relationship existing within and among these pieces to come up with a total consolidated efficiency of the whole process.

Capacity Audit. *Members of the Audit team painstakingly observe the operations of BISCOM during the conduct of the wet milling test.*

Updates

In 2016, mills served for this purpose include HIDECO, CARSUMCO and BISCOM. The technical report for SONEDCO, HIDECO and CARSUMCO were also completed and submitted to the respective mills. The preparation of the BISCOM technical report is on-going and completion is targeted by the first quarter of 2017.

All of the centrals need improvement in the cane preparatory station by building up extraction capability to conduct PI/POC tests for cane preparatory equipment as well as installation of shredder for those mills which lack it. A shredder is essential to rupture the sugar bearing cells of the sugarcane and PI. This will determine how well the canes are prepared for extraction. For specific equipment, two of these sugar

centrals have under capacitated clarifiers with respect to their rated capacity. This brought problems in the boiling house especially when handling low purity materials.

Environmental Monitoring of Sugar Mills by the Special Action Group for Environment (SAGE)

Environmental monitoring through the Special Action Group for the Environment is a service offered by the Technical Services section to the sugar mills which focuses on monitoring their waste water effluents and smoke stack emission. The SRA-SAGE team is an accredited Third Party Environmental Monitoring Body by the Department of Environment and Natural Resources.

The SAGE is guided in all its activities and undertakings by the ***Code of Environmental Management Practices for the Sugar Industry***, specifically towards the operationalization of the industry *Environmental Self-Monitoring System* for the sugar mills and refineries. The SAGE shall also serve as SRA's core group that will coordinate and collaborate with the private sector, specifically sugar industry associations and other institutions over other technical matters pertaining or related to the environment, such as energy/cogeneration and safety, among others.

Updates and Improvements

The Special Action Group for the Environment (SAGE) - Quezon City Team of the Technical Services Division under the Research Development and Extension Department, has been monitoring the sugar mills for the last 10 years. It can be said that there was an improvement in terms of air emission quality over time, although two mills (Mill C & Mill D) did not improve or did not pass the DENR-EMB air quality standard because they did not modify their air pollution control facilities.

Because of SAGE's environmental monitoring, the sugar mills were able to manage their facilities and thus adopted control measures applicable to their set-up. The management, through the pollution control officer of each sugar mill were also given recommendations on how to improve their air pollution control device/equipment. Recommendations for rehabilitation of the sampling area in the sugar mills' chimneys were also taken into consideration during the SAGE monitoring.

To ensure its credibility as a third-party monitoring team, the DENR randomly visits and observes the SAGE-SRA team during its operations.

Recent Operations

For this year, six sugar centrals were served by the SAGE-SRA QC team which include:

CAT	*—January 11-15*
	—April 26-29
BSCI	*—January 21-22*
CADP	*—January 25-29*
	—April 18-23
PENSUMIL	*—March 7-12*
CARSUMCO	*—April 4-7*
SCISC	*—Dec 14-16*

Technical assistance was also given to the SAGE-SRA Bacolod team during its environmental monitoring of various sugar mills/bioenergy corporations in the Visayas area which include:

VMC —May 16-20
San Carlos —June 23-24
Roxol Bioenergy —September 12-16
URC-SONEDCO —October 24-27

Energy Efficiency and Conservation and Commercial Cogeneration for Sugar Industry

The Energy Efficiency and Conservation Project or Energy Audit (as commonly referred to by the audit team) is an activity which aims to identify where and how much a facility uses energy and discover energy saving opportunities. The project involves the promotion of energy efficiency and the advancement of commercial cogeneration in the sugar mills. It specifically promotes energy efficiency and conservation and optimizes the use of sugarcane biomass i.e. bagasse and sugarcane field trash for commercial cogeneration through sale/export of power produced by the mills

For the present crop year, URC-Passi & BOMEDCO were audited. The average results for all the 15 mills audited are presented in the Table below.

The audit at URC Tolong initially scheduled last December 14-19 was postponed due to unstable cane supply. Calibration of equipment and instruments were conducted this year along with the establishment of sugarcane industry energy efficiency benchmarks. Tentative mills scheduled for the next year include URC-Tolong, Sweet Crystal and CAB.

Table. Average results of 15 mills on steam and electric power generation and utilization

Parameter	Average	Recommended
Steam Generations and Utilization		
Boiler Steam Generation	60.73 % on Cane	49 – 52% on cane
Boiler Capacity Utilization	77.91 %	85 – 92%
Boiler Thermal Efficiency	61.84 %	60 – 70%
Steam-Fuel Ratio	2.27 kg steam/kg bagasse	2.20 and above
Amount of steam per Ton of Raw Sugar	6.19 T steam/T Raw sugar	
Electrical Power Generation and Utilization		
Output Capacity Utilization	64.44%	80%
Turbo-Gen (KWh Generation)	95.62%	95 - 100%
KWh purchased from local grid	4.38 %	
Power Consumptions per Ton of Cane	23.85 KWh/Tons Cane	18 – 23 KWh/TC

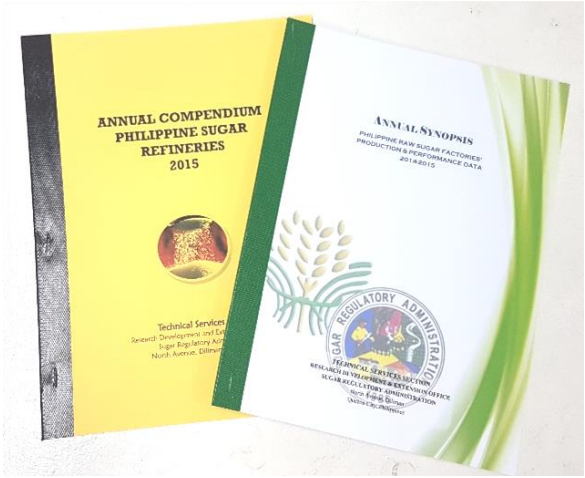
Technical Assistance to the Manager's Projects

An evaluation of Lkg/TC of BOMEDCO was conducted by the section as per request of the Planter's Association. Assessment report was made based on the findings of the personnel. The report was then given to the officers of the association. The manager was also assisted in giving a lecture on sugar processing to UPLB Chemical Engineering Students. Factory data of CADP and URC-SURE were also consolidated as per request of the Manager

Technical Publications

- ***Annual Synopsis of Philippine Raw Sugar Factories' Production and Performance Data***

  The synopsis serves as a summary of the final production and performance data of all operating sugar mills under the crop year. As the outgoing administrator, Ms. Ma. Regina Bautista-Martin emphasized the diversification of mills into fuel ethanol and cogenerated power, thus, the need for this database being an annual major resource for the production reference of mills becomes more and more emphasized.



Publications. *The synopsis and compendium of all mills and refineries serves as database for the production and performance of each sugar factory.*

Synopsis C.Y. 2014-2015 issue was already distributed while preparation of the C.Y. 2015-2016 issue is on-going. Release of this copy is expected to be on the third quarter of the following year.

- ***Annual Compendium of Philippine Sugar Refineries***

The compendium functions as counterpart of the annual synopsis which serves sugar refineries. It summarizes final production and performance data of all the operating sugar refineries of the fiscal year.

A total of 30 publications for the F.Y. 2015 issue were given out as complimentary copies to sugar refineries and stakeholders. The 2016 issue is also due for completion and distribution is targeted on the third quarter of next year.

- ***Philippine Sugar Industry Milling Hardware***

  The publication is a compilation of the specifications of major equipment in sugar mills from cane handling station to raw sugar warehouse. The equipment list can serve as reference material in the procurement of equipment to effect efficiency in raw sugar production.

  The survey stage for all sugar mills and data validation of the project was

completed this year. Mills inspected and were accounted for this year include PENSUMIL, CAC, Sweet Crystal, CADP, URC-SURE, OPTION-MPC, HPCo, CAB, Lopez Sugar, and VMC. Encoding of data is on-going while the release of the publication is due on the second quarter of 2017.

- ***Philippine Sugar Industry Refining Hardware***

  The specifications of major equipment in sugar refineries are listed in this publication. The survey stage of the project was already completed together with the retrieval and validation of the survey forms of all refineries. Refineries inventoried for this year are URC-SURE, Lopez Sugar and VMC. Following the completion of publication, the release of the copy is expected on the second quarter of 2017.

TECHNICAL SERVICES RENDERED

Apart from projects/studies and ministerial functions, other functions of the technical services section is to render technical services. Among these functions include dissemination of technical data to sectors as well as operational processes. Mills, refineries and planters were served together with the academe and the SRA office itself.

EXTENSION SERVICES

A. OPERATIONALIZATION OF BLOCK FARMS

Block farming is a banner program of SRA to help improve the productivity of small sugarcane planters. To better achieve this objective, a total of 27 technical officers were hired for the block farms in Luzon and Mindanao. These newly hired staff members were trained and equipped with the necessary knowledge and skills (especially in basic sugarcane production, community organizing, and effective communication skills, among others) to capacitate them in the conduct of their work as technical officers. SRA agriculturists and block farm technical personnel also facilitated for the application for DSWD accreditation and have submitted the required documents for the said accreditation. To date, two out of the 25 SIDA block farms were already accredited by DSWD.

The 25 SIDA block farms, covering a total area of 1,452.4 hectares, were also benchmarked using the Benchmark Information Survey, and a total of 819 block farm enrolees were interviewed and surveyed. This benchmarking system is designed to compare the performance of the farms/enrolees prior to and after participating in the block farm program.

Forty eight (48) potential block farms in Luzon and Mindanao were organized for SRA accreditation. This covers a total area of 2,540.3 hectares and involves 1,354 smallholder sugarcane planters in the 9 sugar milling districts in Luzon and Mindanao.

B. CROP ESTIMATION SYSTEM

The crop estimate project is a useful system in providing timely, scientific, and reliable forecast of estimating sugarcane yield based on scenarios of weather condition affecting crop growth. The primary data required for this system is a sugarcane field base map which is composed of two components, area digitization (carried out in 2015) and area validation (2016). Ninety three point two (93.2) percent of the total sugarcane area in the 26 mill districts in the Philippines were already validated. The total digitized area is 524,385.0 hectares and the total validated area is 488,882.9 hectares.

The UP-SRA-YESS (Yield Estimation System for Sugarcane), an automated system that was conceived together with the UP TCAGP (Training Center for Applied Geodesy and Photogrammetry), was also launched this 2016. It is a holistic and integrated approach in obtaining and analysing different spatial data sets to generate information on potential sugarcane yield, among other things. Also, a total of 40 automatic weather stations (AWS) were approved and acquired under the crop estimation system and will soon be installed in all the mill districts throughout the country (3 AWS were already installed in Don Pedro, Pampanga, and Tarlac this year).

Twenty four (24) seminars and trainings with a total of 433 participants were also conducted to capacitate the mill district personnel and SRA surveyors in the crop estimation system. Capacity building includes trainings in mapping, software use in Geographic Information Systems, and data management, among others. Drones or UAVs are also part of the crop estimation project and test flights/actual field surveys using drones or UAV were also carried out.

C. EXTENSION SUPPORT, EDUCATION AND TRAINING SERVICES

OPSI. The Outreach Program of the Sugarcane Industry (OPSI) training is an invaluable tool of the Extension Services Division in enhancing the knowledge and skills of sugarcane planters throughout the country. Thus, a total of 10 weeklong OPSI trainings were conducted in all the 9 mill districts in Luzon and Mindanao. The 471 participants in these trainings are members of potential block farms for 2017. Topics discussed in the OPSI training includes basic sugarcane production, block farming, situation of the sugar industry, and sugar milling and production, among others.

Seminars/trainings. The mill district officers in Luzon and Mindanao also conducted/facilitated for the conduct of 65 various trainings/seminars that were attended by 3,120 participants. Topics in these trainings range from basic sugarcane production to SIDA Law and block farming. A total of 1,526 IEC materials were also distributed to different clienteles of the sugarcane industry.

Demo farms. Three on-going demo farms (2 in Bukidnon mill district and 1 in Davao mill district) with a total area of 3.0 hectares were monitored this year. These demo farms showcase the varietal comparison of Phil 99-1793 and Phil 80-13 (in the Davao mill district) and Phil 2003 series and VMC 2003 series (in the Bukidnon mill district).

D. TECHNOLOGY DEVELOPMENT AND PRODUCTION SUPPORT SERVICES

HYV multiplication and distribution. Nursery farms are integral in promoting and propagating the use of new HYVs in the mill districts. This year, a total of 25 nursery farms (both MDDC and SRA funded) with a total area of 82 hectares are monitored in all the mill districts in Luzon and Mindanao. A total of 1,318 lacsas of cane points were produced and distributed to 341 recipients.

Soil sampling and analysis. Having an empirical basis for the amount of fertilizer to apply (or other soil amendments) through soil sampling and analysis is important in optimizing land productivity. This year, a total of 266 soil samples were collected and analysed, covering a total sampling area of 389 hectares and serving 207 planters.

E. FARM SUPPORT AND ADVISORY SERVICES

Mill district officers regularly receive consultations and referrals and conduct farm/home visits as part of the extension division's farm support and advisory services. A total of 1,132 consultations/visitors were received and served, 1,409 sugarcane farms were visited, and 45 assistance to MDDCs were provided.

F. PROGRAM / PROJECT / ACTIVITIES MANAGEMENT

Weekly production reports. Weekly production reports from the mill districts are used as basis in the monitoring of current sugar production in the country. For this year, a total of 106 weekly production reports were submitted during the milling season.

Field surveys. Cost of production (COP) surveys provide cost and return analysis of sugarcane production and this year, a total of 96 COP surveys were conducted. The mill district officers were also involved in the inventory of trucks and tractors in their respective mill districts.

Retooling of Agriculturists. A training on the retooling of agriculturists was held at the LAREC in Pampanga and was attended by 50 extension personnel. The primary objective of this activity is to enhance the extension workers' skills in the delivery of extension services to the clienteles of the sugarcane industry, and to capacitate the technical officers in community organizing and improved communication skills.

G. OTHER ACTIVITIES

Ocular Inspection. In addition to being a member of the National Technical Committee Evaluation on Land Use Matters (NTECLUM) and the Committee on the Rehabilitation of Agricultural Lands (CRAL), SRA also conducts ocular inspection of areas applied for conversion in sugarcane growing areas. These activities, however, were halted after August 23, 2016 due to a moratorium on land conversion that was released by the DA. Thus, for 2016, a total of 14 applications for SRA certification with a total area of 98.04 hectares was inspected and given certification. As a member of the two committees mentioned above, 24 NTECLUM ocular inspections with a total area of 563.3 hectares and 3 CRAL ocular inspections covering an area of 59.2 hectares were

conducted, respectively. Extension personnel also attended 5 CRAL meetings and 8 NTECLUM meetings.

Gawad Saka Search. A total of 5 nominees were interviewed and evaluated for the *Gawad Saka* Search for Outstanding Sugarcane Farmer.

Attendance to Various Meetings. Extension services personnel attended a total of 177 various meetings whose breakdown is as follows: NTECLUM-8, CRAL-5, *Gawad Saka*-7, various agencies (TESDA, DOLE, SUC, DAR, RMC, DTC, and others)-157.

These are only some of the activities/concerns/matters/issues/accomplishments faced by our district officers in dealing with their day-to-day transactions with the various stakeholders of the district.

Extension Division at Work

OPSI Seminar in Apulid, Paniqui, Tarlac

Gender sensitivity training in Calan, Balayan, Batangas

OPSI Seminar in Caretonan, Calatagan, Batangas

TESDA STEP Training – Engine electrical course (Bamban, Tarlac)

OPSI Seminar in Taludtod, Balayan, Batangas

Drone test flight and actual field survey under the Crop Estimation Project

Automatic weather station in Pampanga

Data gathered from sampling sites under the Crop Estimation Project

LUZON AGRICULTURAL RESEARCH & EXTENSION CENTER (LAREC)

PRODUCTION TECHNOLOGY AND CROP MANAGEMENT (PTCM)

PTCM implemented 47 R and D projects of which 10 were completed, 16 were on-going and 13 were new/laid-out.

- 10 clones passed the selection criteria in the 2011 Preliminary Yield test. Recommended to undergo further testing in the Ecological Test/National Cooperative Test are Phil 11-14-0133, Phil 11-14-0237, Phil 11-159-1683, Phil 11-62-0449, Phil 11-53-0813, Phil-11-74-0827, Phil 11-117-1097, Phil 11-80-1075, Phil 11-81-1051 and Phil 11-80-1077.

- All 30 Phil 2010 series test clones passed the screening for resistance to smut; 9 were very highly resistant, 7 were highly resistant, were 12 intermediate resistant and 2 were intermediate average.

- All 10 Phil 2010 series test clones passed the screening for resistance to downy mildew; 5 were very highly resistant, 5 were highly resistant.

- In the ''Performance of selected Phil 2008 series in three mill districts in Luzon'' (2008 Ecological Test), Phil 2008-0553, Phil 2008-0909, and Phil 2008-1253 are recommended for further evaluation by the Variety Committee. The three varieties had more gains and evens with lesser losses in tonnage, sucrose content and sugar yield than the other test varieties against the control varieties and passed the selection criteria for resistance to smut and downy mildew.

- No significant differences were observed in the three yield parameters of Phil 99-1793 using three degrees of farm mechanization in the plant cane. In the first ratoon tractor+manual harvesting significantly outyielded carabao + manual in tonnage and comparable with the carabao+manual+tractor. In sugar content and sugar yield all three degrees of mechanization were comparable. Highest average ROI of 1.52 for the two cropping seasons was given by carabao+manual+tractor indicating that that the use of carabao+ manual+tractor in the culture of Phil 99-1793 is the most efficient and effective combination.

- The percent N contents of sand, sandy loam, clay, clay loam and loam texture soil samples based on analysis of organic matter content were significantly lower compared with those obtained from using the N analyzer. Comparable percent N content were obtained on loamy sand and silt loam/silt clay loam.

- Mixed planting gave more millable stalks, higher cane tonnage and sugar yields than single planting in the plant and ratoon crops. Only Phil 7544 in single planting was infected by downy mildew in the ratoon cane with 2.31 % infection.

- Tonnage of Phil 99-1793 in the plant cane was not affected by irrigation and different levels of compost fertilization. Means of irrigated canes was significantly

higher than non-irrigated canes while means from 75% to 125% levels of fertilization were significantly higher than the other treatment means. In the ratoon, it was affected by irrigation and levels of fertilization. Compost fertilized plots were significantly higher than unfertilized plots in both irrigated and non-irrigated treatments. LKg/TC was not affected by both irrigation and levels of fertilization in both plant and ratoon cane. LKg/Ha was significantly affected by irrigation and levels of fertilization in both plant and ratoon cane. Compost fertilized plots were significantly higher than unfertilized plots in both irrigated and non-irrigated treatments.

- In the plant culture of Phil 99-1793 in soils fertilized purely with composted chicken manure the most profitable intercrop is peanut. If intercropping is to be continued in the ratoon, Phil 99-1793 intercropped with mung bean is the most profitable. However, a choice between mung bean or peanut is recommended since on the average there is only minimal difference in profits.

- The 50% Moisture Allowable Deficit (MAD) of the soil was the level which gave higher cane yield (TC/Ha) and sugar yield (LKg/Ha) of Phil 00-2569 for both the drip and furrow irrigation. This level was also used in the convergence project with the Philippine Nuclear Research Institute.

- Soils Laboratory analyzed 813 soil samples, 311 from sugarcane planters, 399 from Block farm planters, 103 from Government & private entities and researchers and 751 cane juice samples, 139 from planters/other clientele and 612 from SRA researchers.

- Maintained 78 released Phil, VMC and PSR varieties and 323 preserved insect pests and natural enemies.

- Presented four technical papers:

  A. SRA National In House Review, SRA-LAREC, FLoridablanca, Pampanga, September 22-23, 2016
     1. Cane and sugar yields as affected by single and mixed variety planting
     2. Percent total nitrogen content of seven soil types using Walkley-Block and Kjeldahl methods
     3. Effect of degree of mechanization on the growth and yield of Phil 99-179

  B. Philippine Sugar Technologists Assn. LTD (PHILSUTECH) 63rd Annual Convention at Waterfront Hotel, Cebu City
     1. Intercropping peanut, mung bean and kidney bean with Phil 99-1793 in soil fertilized with composted chicken manure

- PTCM staff were resource speakers to 9 OPSI trainings; attended 21 seminars/trainings/ symposium/scientific and administrative meetings; rendered 4 technical services and attended 5 other related RDE activities.

- Three staffs of FBSS are actively participating as Technical Working Group members to various technical committees to include Farm Mechanization and

FMR under SIDA, Technical Working Group on Farm Machinery and Equipment relative to Agricultural Projects and Civil Works of the Bids and Awards Committee. Same staffs were involved in the inspection and monitoring (I/M) of Farm to Mill Roads (FMR's)

- One staff of FBSS is involved in two (2) on-going PCAARRD-funded collaborative projects. Same staff assisted in the CREA-ING (Dr. Luigi Pari) visit to various sugar mills, sugarcane farms, and fabricators of farm machineries.

RESEARCH AND DEVELOPMENT PROJECTS

Breakdown of the 47 R & D projects implemented in 2016 is as follows:

Status	Number of Projects
Completed VIPM PTCM	**10** 4 6
On-going VIPM PTCM	**16** 4 12
New/Laid-out VIPM PTCM	**21** 4 17
Total	**47**

COMPLETED PROJECTS

A. Variety Improvement and Pest Management (4)

Preliminary yield test of Phil 2011 Series *(P. Macamos, N. Guiyab, V. Serrano, A. Casupanan and M. Guevarra)*

Thirty test clones from 2011 row test series were entered in the preliminary yield test at LAREC using RCBD to compare their agronomic performance with two check varieties, Phil 8013 and Phil 7544.

Results of the test showed that while nine clones were comparable to both check varieties in tonnage 23 were comparable in sugar content and three were comparable in sugar yield. Among the test clones only Phil 11-159-1683, Phil 159- 1657, and Phil 80-1075 were comparable to both check varieties in three yield parameters. All other test entries were either significantly lower than one or both check varieties.

The clones which are recommended to undergo ecological testing are Phil 11-14-0133, Phil 11-14-0237, Phil 11-159-1683, Phil 11-62-0449, Phil 11-53-0813, Phil-11-74-0827, Phil 11-117-1097, Phil 11-80-1075, Phil 11-81-1051 and Phil 11-80-1077. These clones were rated resistant to smut and downy mildew and were sparse flowering.

Screening of Phil 2010 series for resistance to smut *(A. Casupanan, V. Serrano, N. Guiyab, P. Macamos and M. Guevarra)*
Thirty clones of the 2010 series were planted and tested for their reaction to sugarcane smut in the plant and ratoon cane.

Among the thirty clones of 2010 series, nine were rated very highly resistant, namely, Phil 10-0149, Phil 10-0183, Phil 10-0427, Phil 10-0487, Phil 10-0317, Phil 10-0869, Phil 10-0105, Phil 10-0733, and Phil 10-0471. Rated highly resistant were Phil 10-0507, Phil 10-0645, Phil 10-1051, Phil 10-0073, Phil 10-0085, Phil 10-0381, and Phil 10-0353; intermediate resistant, Phil 10-0571, Phil 10-0131, Phil 10-0107, Phil 10-0077, Phil 10-0545, Phil 10-0385, Phil 10-0141, Phil 10-0519, Phil 10-0279, Phil 10-0955, Phil 10-0767, Phil 10-0185; and intermediate average, Phil 10-0243, Phil 10-0901

Screening of Phil 2009 series for resistance to downy mildew *(A.Casupanan, V. Serrano, N. Guiyab, P. Macamos and M. Guevarra)*

Ten clones of Phil 2009 series were screened and evaluated for resistance to sugarcane downy mildew in the plant and ratoon cane.
Among the ten clones of 2009 series, Phil 09-0037, Phil 09-1045, Phil 09-1261, Phil 09-1867, Phil 09-1969, were rated very highly resistant while Phil 09-0015, Phil 09-0081, Phil 09-0093, Phil 09-0323, and Phil 09-0919 were highly resistant

Performance of selected Phil 2008 series in three mill districts in Luzon *(V. Serrano, N. Guiyab, P. Macamos A. Casupanan and M. Guevarra)*

Ten promising Phil 2008 series sugarcane varieties were planted to evaluate their yield performance in three mill districts in Luzon. The experiment was laid out in RCBD with four replications.

Phil 2008-0553, Phil 2008-0909, and Phil 2008-1253 showed better performance against the check varieties compared with other test varieties on the gain-even-loss tally. The three varieties had more gains and evens with lesser losses in tonnage, sucrose content and sugar yield. In terms of yield potential Phil 2008-0553 produced 139.44 TC/Ha and 1.79 LKg/TC, Phil 2008-0909 produced 138.07 TC/Ha and 2.05 LKg/TC and Phil 2008-1253 produced 137.74 TC/Ha and 1.87 LKg/TC.

In the smut and downy mildew resistance trials, the three test varieties were also rated within the acceptable range of very highly resistant to intermediate average.

Flowering incidence, however, showed that Phil 2008-0553 is a very profuse flowerer in Pampanga. It is therefore, recommended that this variety be planted in April or May to minimize its flowering ability. These varieties are recommended for further evaluation by the variety committee.

B. Production Technology and Crop Management (6)

Effect of different degrees of farm mechanization on the yield of Phil 99-1793 *(P. Macamos, N. Guiyab, V. Serrano A. Casupanan and M. Guevarra)*

The effect of three degrees of mechanization (DM1= carabao+manual; DM2= carabao+ manual+ tractor; DM3= tractor+ manual harvesting) on yield was studied using Phil 99-1793. The experiment was laid out in RCBD with four replications.

In the plant cane, no significant differences were observed in tonnage (TC/HA), sugar content (LKg/TC) and sugar yield (LKg/Ha) of Phil 99-1793 using the three degrees of mechanization.

In the first ratoon, tractor+manual harvesting significantly outyielded carabao + manual in tonnage and comparable with the carabao+manual+tractor. In sugar content and sugar yield all three degrees of mechanization were comparable.

Economic analysis showed that highest average ROI of 1.52 for the two cropping seasons was given by carabao+manual+tractor while the lowest ROI of 1.26 was given by carabao+ manual. This means that the use of carabao+ manual+tractor in the culture of Phil 99-1793 is the most efficient and effective combination.

Percent total nitrogen content of seven soil types using Walkley-Block and Kjeldahl methods-*(L.Yarte, M. Guevarra, and A. Burcer)*

Soil samples collected from Tarlac, Pampanga, Batangas and Cagayan and submitted to SRA-LAREC Soils laboratory were used in the study. These samples represented seven soil types namely, sand, sandy loam, clay, clay loam, loamy sand, loam and silt loam/silt clay loam.

For each soil sample, half was analyzed for organic matter content using the Walkly-Black method while the other half was analyzed for nitrogen content using the Nitrogen analyzer.

The percent N contents of sand, sandy loam, clay, clay loam and loam texture soil samples based on analysis of organic matter content were significantly lower compared with those obtained from using the N analyzer. Comparable percent N content were obtained on loamy sand and silt loam/silt clay loam.

Cane and sugar yields as affected by single mixed variety planting *(B. Manlapaz, M. Guevarra, A. Bacani and A. Burcer)*

Three sugarcane varieties, Phil 7544, Phil 99-1793 and Phil 00-2569 were planted alone and in mixtures containing equal proportion of two or three varieties and were evaluated to compare cane and sugar yield and disease occurrence in mixed and single variety planting.

Among the treatments, mixed planting gave more millable stalks, higher cane tonnage and sugar yields than single planting in plant and ratoon crops.

Only Phil 7544 in single planting was infected by downy mildew in the ratoon cane with 2.31 % infection.

Cane and sugar yields under irrigated and chicken manure compost fertilized soil *(B. Manlapaz, M. Guevarra, A. Bacani and A. Burcer0*

The study was conducted to determine the effects of irrigation and levels of composted chicken manure fertilization on the growth and yield of Phil 99-1793 in the plant and first ratoon canes.

Treatments included with and without irrigation and five levels of compost fertilization based on N fertilizer recommendation, namely: 125%, 100%, 75%, 50% and 0%.

In the plant cane, tons cane (TC)/Ha was not affected by irrigation and different levels of compost fertilization. Means of irrigated canes was significantly higher than non-irrigated canes. Means from 75% to 125% levels of fertilization were significantly higher than the other treatment means. The LKg/TC was not affected by both irrigation and levels of fertilization. The LKg/Ha was significantly affected by irrigation and fertilization levels. Compost fertilized plots were significantly higher than unfertilized plots in both irrigated and non-irrigated plots.

In the ratoon cane, TC/Ha and LKg/Ha were both significantly affected by irrigation and levels of fertilization. Compost fertilized plots were significantly higher than unfertilized plots in both irrigated and non-irrigated treatments. The LKg/TC was not also affected by both irrigation and levels of fertilization treatments.

Intercropping peanut, mung bean and kidney bean with Phil 99-1793 in soil fertilized with composted chicken manure (*N. Guiyab, V. Serrano A. Casupanan, P. Macamos and M. Guevarra)*

Three leguminous crops were tested to determine their suitability in the culture of Phil 99-1793 in soils fertilized with purely composted chicken manure.

In the plant culture of Phil 99-1793 in soils fertilized purely with composted chicken manure the most profitable intercrop is peanut. If intercropping is to be continued in the ratoon, Phil 99-1793 intercropped with mung bean is the most profitable. However, a choice between mung bean or peanut is recommended since on the average there is minimal difference in profits.

As organic materials take time to react in the soil it is suggested to test for earlier application of composted chicken manure using more than the recommended amount. A wider interrow spacing should also be used to allow more cultivation in the ratoon.

Smart Water Management Strategies for Sugarcane (Plant Cane- Collaborative project with CLSU) *(M. Guevarra, B. Manlapaz, A. Bacani and A. Burcer)*

The 50% Moisture Allowable Deficit (MAD) of the soil was the level which gave higher cane yield (TC/Ha) and sugar yield (LKg/Ha) of Phil 00-2569 for both the drip and

furrow iirrigation. This level was also used in the convergence project with the Philippine Nuclear Research Institute.

ON -GOING PROJECTS/CONTINUING (16)

A. Variety Improvement and Pest Management (4)

Screening of Phil 2011 series for resistance to smut *(A. Casupanan, N. Guiyab, P. Macamos, V. Serrano, B. Manlapaz, R. Sarol, J. Agsaoay and M. Guevarra)*

Thirty clones from Phil 2011 series and two check varieties Phil 7544 and Phil 8013 were planted using RCBD with three replications. Data on plant cane were consolidated while data collection on ratoon cane is still on-going.

Screening of Phil 2010 series for resistance to downy mildew *(A. Casupanan, N. Guiyab, P. Macamos, V. Serrano, B. Manlapaz, R. Sarol, J. Agsaoay and M. Guevarra)*

Ten test clones from Phil 2010 series and one check variety Phil 7544 were planted using RCBD with three replications. Data on plant cane were consolidated while data collection on ratoon cane is still on-going.

Ecological test of Phil 2009 Series *(N. Guiyab, V. Serrano, P. Macamos, A. Casupanan, S. Ocampo, T. Caballero , L. Caranguian, and M. Guevarra)*

Ten test varieties selected from the Phil 2009 Preliminary Yield Test and two check varieties were laid out in RCBD replicated four times in a 6 rows x 9 meters plot in the mill district of Balayan in February 2016. Agronomic data are being collected and compiled by the agriculturist for submission. Care and maintenance are undertaken by the cooperator. The experiment will be harvested in February 2017. Agronomic data of the tests in Pensumil, Carsumco and Pampanga have been consolidated and will be analyzed after the experiment in Balayan have been harvested.

Ecological test of Phil 2010 Series *(N. Guiyab, V. Serrano, P. Macamos, A. Casupanan, B. Manlapaz, R. Sarol, J. Agsaoay, S. Ocampo, T. Caballero , L. Caranguian, and M. Guevarra)*

Ten test varieties selected from the Phil 2010 Preliminary Yield Test and two check varieties were laid out in RCBD replicated four times in a 6 rows x 9 meters plot in the mill district of Balayan and at LAREC in February 2016. Agronomic data are being collected and compiled by the agriculturist in Balayan for submission. Care and maintenance are undertaken by the cooperator. The experiments will be harvested in February 2017. Agronomic data of the tests in Pensumil, Carsumco have been consolidated and will be analyzed after the experiments in Balayan and LAREC have been harvested.

B. Production Technology and Crop Management (12)

Ratoon performance of selected Phil 2007 series (*A. Casupanan, P. Macamos , N. Guiyab, V. Serrano, B. Manlapaz, R. Sarol, and J. Agsaoay)*

Two recommended varieties from the 2007 ecological test and two check varieties are being maintained up to the third ratoon to evaluate their performance. Agronomic data are being collected and consolidated. The experiment is in the third ratoon. Harvesting will be done in January 2017. Care and maintenance activities are undertaken.

Ratoon performance of selected Phil 2008 series *(A. Casupanan, N. Guiyab, V. Serrano P. Macamos, B. Manlapaz, R. Sarol, J. Agsaoay)*

One recommended variety and two check varieties from the 2008 ecological test are being maintained up to the third ratoon to evaluate their performance. Agronomic data are being collected and consolidated. The experiment is in the second ratoon. Harvesting will be done in January 2017. Care and maintenance activities are undertaken.

Ratoon performance of selected Phil 2009 series *(J. Agsaoay, N. Guiyab, V. Serrano A. Casupanan, B. Manlapaz, R. Sarol and P. Macamos)*

The first ratoon of Phil 2009 series ecological test is being maintained to observe the performance of the varieties prior to selection of recommended varieties. Agronomic data are being collected and consolidated. Harvesting will be done in February 2017. Care and maintenance activities are undertaken.

Evaluation of selected HYVs for early milling in Carsumco Mill District *(A. Casupanan, N. Guiyab, V. Serrano, P. Macamos and M. Guevarra)*

Ten high yielding varieties were laid out at Piat, Cagayan in Carsumco Mill District in November 2014 using RCBD, replicated four times. Plot size is 6 rows x 9 meters. The experiment is being conducted to evaluate the suitability of the HYVs for early planting and milling up to the first ratoon. The experiment was harvested in December 2016. Agronomic data are collected and being consolidated prior to statistical analysis.

Evaluation of selected HYVs for early milling in Pensumil Mill District
(P. Macamos, N. Guiyab, V. Serrano, A. Casupanan and M. Guevarra)

Ten high yielding varieties were laid out at Pensumil Mill District in December 2014 using RCBD, replicated four times. Plot size is 6 rows x 9 meters. The experiment is being conducted to evaluate the suitability of the HYVs for early planting and milling up to the first ratoon. The experiment will be harvested in January 2017. Agronomic data are collected and being consolidated prior to statistical analysis.

Comparative performance of selected HYVs in the ratoon crop
(J. Agsaoay, V. Serrano, N. Guiyab, B. Manlapaz, A. Casupanan, R. Sarol and P. Macamos)

Ten selected high yielding varieties were laid out in RCBD replicated four times in a 6 rows x 9 meters plot at LAREC to compare their yield performance up to the third ratoon crop. Agronomic data are collected and consolidated. Care and maintenance are undertaken. The experiment is in the first ratoon and will be harvested in February 2017.

Performance of newly released HYVs in commercial production
(N. Guiyab, P. Macamos, V. Serrano, A. Casupanan, B. Manlapaz, R. Sarol, and J. Agsaoay)

Two recommended HYVs, Phil 2000-1419 and Phil 2000-2155 were laid out in February 2015 in 24 rows x 30 meters replicated four times at LAREC to evaluate their yield performance in commercial scale up to the first ratoon. Care and maintenance are given. The experiment will be harvested in January 2017.

Performance of selected HYVs in off season planting at LAREC
(A. Casupanan, V. Serrano, N. Guiyab, B. Manlapaz and P. Macamos, R. Sarol, J. Agsaoay)

Ten high yielding varieties were laid out in RCBD replicated four times in a 6 rows x 9 meters plot at LAREC to evaluate their yield performance and adaptability in wet season planting and late milling up to the first ratoon. Agronomic data are collected and consolidated. Care and maintenance are undertaken. The experiment will be harvested in March 2017.

Test of varieties under waterlogged condition *(B. Manlapaz, M. Guevarra, A. Bacani and A. Burcer)*

The experiment was laid-out in randomized complete block design with four replications using 7 m X 5 rows of 1.3 m furrow distance. Twelve test varieties were planted. Agronomic data are collected and consolidated. Care and maintenance activities are undertaken. The experiment will be harvested in January 2017.

Muscovado production from compost- and chemically-fertilized sugarcane
(A. Casupanan, B. Manlapaz, V. Serrano, A. Bacani, A. Burcer M. Guevarra)

The experiment was laid out to determine the effects of fertilization using compost, chemical fertilizers and their combination on cane and sugar yields and on production of muscovado using Phil 99-1793.
Care and maintenance activities are undertaken. The experiment will be harvested in January 2017.

Performance of variety selections in organically fertilized soil
(B. Manlapaz, M. Guevarra, A. Bacani and A. Burcer)

Variety selections from the ecological test was laid out in randomized complete block design to evaluate their performance under organic fertilization system up to the first ratoon. Agronomic data are collected and consolidated. The study will be completed in March 2017.

Efficacy of Hyper Plus foliar fertilzer on the growth and yield of sugarcane (Collaborative/Efficacy Test) *(B. Manlapaz, V. Serrano, M. Guevarra)*

The HYPER PLUS (Growth enhancer) foliar fertilizer of MJ Multilines Incorporated is a blend of properly balanced macronutrients, amino acid, humic acid, vitamins, hormones and sticker formulated to supplement necessary nutrients for optimum plant development.

Farmers using HYPER PLUS (Growth enhancer) from their crops like rice, corn, vegetables, ornamentals and fruit trees have reported production of good quality harvest and increases in yields and profit. The product can be applied in combination with most commercially-prepared agricultural insecticides and fungicides.

The product has not been tested for its efficacy on sugarcane, hence, this trial aims to determine its effects of foliar fertilizer on the growth and yield of sugarcane for purposes of product registration for label expansion on sugarcane.

The trial was laid out in randomized complete block design with nine treatments and four replications in December 2015. Plot size is 7 m X 5 rows with 1.3 m furrow distance. Agronomic data are collected and consolidated. The experiment will be harvested in January 2017.

NEW/LAID – OUT (21)

A. <u>Variety Improvement and Pest Management (4)</u>

Preliminary yield test of 2012 Series.
N. Guiyab, P. Macamos, V. Serrano, A. Casupanan, B. Manlapaz, R. Sarol, and J. Agsaoay

Thirty promising clones from the Phil 2012 Row Test series selected by LGAREC and two check varieties were planted in April 2016 to compare their yield performance with the control varieties Phil 75-44 and Phil 80-13.

The test was laid-out in a 5 rows x 7 meter plot using RCBD with three replications. Agronomic data are gathered and consolidated. Care and maintenance activities are undertaken. Harvesting will be done in March 2017.

Screening of Phil 2012 series for resistance to smut.
A. Casupanan, V. Serrano, N. Guiyab, P. Macamos R. Sarol, J. Agsaoay, and M. Guevarra,

Thirty clones from Phil 2012 series from LAGAREC were planted in April 2016 using RCBD replicated three times. Germination and bi-weekly infections were gathered and recorded. Care and maintenance activities are undertaken. Harvesting will be done in March 2017.

Screening of Phil 2011 series for resistance to downy mildew.
A. Casupanan, N. Guiyab, P. Macamos, V. Serrano R. Sarol, J. Agsaoay, and M. Guevarra

Ten test clones from Phil 2011 series and one check variety Phil 7544 were planted in July 2016 to test their resistance to downy mildew. The plants are given proper care and maintenance. Continuous observation and data recording of disease occurrence are on-going.

National Cooperative Test for Sugarcane Varieties
V. Serrano, N. Guiyab, B. Manlapaz, R. Sarol, and J. Agsaoay

Four high yielding varieties were planted for propagation for use as control treatments in five different mill districts in Luzon, Visayas and Mindanao. Care and maintenance activities are undertaken.

B. <u>Production Technology and Crop Management (17)</u>

Effects of method of cutting and delay in planting on germination of three HYVs
A. Casupanan, N. Guiyab, V. Serrano, B. Manlapaz and P. Macamos

Two methods of cutting employed in preparation of planting materials and four delays in planting times were tested using split plot design with four replications to determine which is the most effective method of cutting stalks and the effect of delays in planting on the germination of three high yielding varieties.

Agronomic data are collected and consolidated. Care and maintenance are given. The experiment will be harvest in January 2017.

Effect of density and planting pattern on cut-back production of Phil 99-1793
N. Guiyab, P. Macamos V. Serrano, A. Casupanan and B. Manlapaz

Three planting patterns and densities of planting were tested using Phil 99-1793 to determine which combination will produce the most number of canepoints per hectare up to the first ratoon. The experiment was laid out using split plot design with four replications. The first harvest was done in Oct 2016. The experiment is in the ratoon. Harvesting will be done in May 2017.

Intercropping in sugarcane farming
N. Guiyab, V. Serrano, B. Manlapaz, A. Casupanan, J. Agsaoay, and R. Sarol

Composted chicken manure and vermicompost as organic fertilizers in different combinations are tested to evaluate their effect on the growth and yield of Phil 99-1793 using peanut as intercrop. The experiment was laid out in RCBD with four replications using 1.5 m furrow distance in November 2016. Care and maintenance activities are undertaken.

Performance of HYVs under sandy soil condition
R. Sarol, J. Agsaoy, N. Guiyab, B. Manlapaz, V. Serrano, A. Casupanan

Ten high yielding varieties were propagated and maintained prior to testing under sandy soil condition at LAREC. Soil sample was collected and analyzed in the laboratory. Land preparation was undertaken.

Yield performance of Phil 2007 series varieties at different season of planting under Larec condition
B. Manlapaz, V. Serrano, N. Guiyab, A. Casupanan, J. Agsaoay, R. Sarol

Two Phil 2007 series recommended varieties were planted using factorial in randomized complete block design to determine their cane and sugar yield when planted during the early, mid and late season planting. The experiment was laid out in November 2016. Care and maintenance activities are undertaken.

Yield performance of Phil 2008 variety at different season of planting under Larec condition
B. Manlapaz, V. Serrano, N. Guiyab, A. Casupanan, J. Agsaoay, R. Saro

Phil 2008-0909, a recommended variety from the ecological test was planted using randomized complete block design to determine its cane and sugar yield when planted during the early, mid and late season planting. The experiment was laid out in November 2016. Care and maintenance activities are undertaken.

Yield performance of Phil 2007 series varieties at different ages of harvest under Larec condition
B. Manlapaz, V. Serrano, N. Guiyab, A. Casupanan, J. Agsaoay, R. Sarol

Two Phil 2007 series recommended varieties were planted using factorial in randomized complete block design to determine their cane and sugar yield when harvested at 11, 12 and 13 months after planting. The experiment was laid out in November 2016. Care and maintenance activities are undertaken.

Yield performance of Phil 2008 variety at different ages of harvest under Larec condition
B. Manlapaz, V. Serrano, N. Guiyab, A. Casupanan, J. Agsaoay, R. Sarol

Phil 2008-0909, a recommended variety from the ecological test was planted using randomized complete block design to determine its cane and sugar yield when harvested at 11, 12 and 13 months after planting. The experiment was laid out in November 2016. Care and maintenance activities are undertaken.

Yield performance of Phil 2007 recommended varieties at different levels of nitrogen fertilization
J. Agsaoay, R. Sarol, B. Manlapaz, V. Serrano, N. Guiyab, A. Casupanan

Two Phil 2007 series recommended varieties were planted to determine their cane and sugar yield when fertilized with different levels of nitrogen. The experiment was laid out in December 2016 using randomized complete block design. Plot size is 5 rows x 7m plots using 1.3 furrow distance.

Yield performance of Phil 2007 recommended varieties at different levels of phosphorous fertilization
J. Agsaoay, R. Sarol, B. Manlapaz, V. Serrano, N. Guiyab, A. Casupanan

Two Phil 2007 series recommended varieties were planted and maintained prior to testing to determine their cane and sugar yield when fertilized with different levels of phosphorous. Soil sample in the experimental area was collected and analyzed in the laboratory

Yield performance of Phil 2007 recommended varieties at different levels of potassium fertilization
J. Agsaoay, R. Sarol, B. Manlapaz, V. Serrano, N. Guiyab, A. Casupanan

Two Phil 2007 series recommended varieties were planted to determine their cane and sugar yield when fertilized with different levels of potassium. The experiment was laid out in December 2016 using randomized complete block design. Plot size is 5 rows x 7m plots using 1.3 furrow distance.

Yield performance of Phil 2008 recommended variety at different levels of nitrogen fertilization
R. Sarol, J. Agsaoy, N. Guiyab, B. Manlapaz, V. Serrano, A. Casupanan

Phil 2008-0909, a recommended variety from the ecological test was planted to determine its cane and sugar yield when fertilized with different levels of nitrogen. The experiment was laid out in December 2016 using randomized complete block design. Plot size is 5 rows x 7m plots using 1.3 furrow distance.

Yield performance of Phil 2008 recommended variety at different levels of phosphorous fertilization
R. Sarol, J. Agsaoy, N. Guiyab, B. Manlapaz, V. Serrano, A. Casupanan

Phil 2008-0909, a recommended variety from the ecological test was planted and maintained prior to testing to determine its cane and sugar yield when fertilized with different levels of phosphorous. Soil sample in the experimental area was collected and analyzed in the laboratory.

Yield performance of Phil 2008 recommended variety at different levels of potassium fertilization
R. Sarol, J. Agsaoy, N. Guiyab, B. Manlapaz, V. Serrano, A. Casupanan

Phil 2008-0909, a recommended variety from the ecological test was planted to determine its cane and sugar yield when fertilized with different levels of potassium. The experiment was laid out in December 2016 using randomized complete block design. Plot size is 5 rows x 7m plots using 1.3 furrow distance.

Efficacy of GRO plant booster on the growth and yield of sugarcane (Collaborative/Efficacy Test)
B. Manlapaz, V. Serrano, M. Guevarra

GRO PLANT BOOSTER is a naturally based foliar growth stimulant registered with Fertilizer and Pesticide Authority (FPA) for use in rice, pechay, corn and hot pepper. The product is used for foliar and seed treatment and can be mixed with other fertilizers and herbicides without effects on its effectiveness.

THE PRODUCT HAS NOT BEEN TESTED FOR ITS EFFICACY IN SUGARCANE, HENCE, THIS AIMS IS TO REDUCE THE INORGANIC FERTILIZER REQUIREMENT AND INCREASE CANE AND SUGAR YIELD.

The trial was laid out in RCBD with nine treatments and four replications in December 2015. Plot size is 7 m X 5 rows with 1.3 m furrow distance. Agronomic data are collected and consolidated. The experiment will be harvested in February 2017.

Performance of Released Varieties under Drought Condition (Phil 2007 and Phil 2008 Sries)*P. Macamos, L. Olalia, A. Bacani*

The experiment involving three High Yielding Varieties (Phil 07-221, Phil 07-243 and Phil 08-0909) was laid-out in Randomized Complete Block Design replicated three times. The plot size is 5 rows by 7 meters.

DEVELOPMENT OF THE SUSTAINABLE SUGARCANE CULTIVATION TECHNOLOGY IN THE PHILIPPINES (Collaborative Project)

1. Effects of plant residue removal on sugarcane production and soil fertility
2. Effects of fermentation residue on sugarcane production and soil fertility

In the Philippines, use of biofuel- blended gasoline is compulsory and E10 gasohol is widely distributed. But, domestic supply of ethanol is only about 20% of total consumption. Therefore, it is expected to increase domestic ethanol production. In order to produce ethanol from bagasse and plant residue on the field after harvest of sugarcane, Nippon Steel & Sumikin Engineering Co., Ltd. And Japan International Research Center for Agricultural Sciences applied for a project of Ministry of Environment, Japan received a research budget of three years.

The objectives of these studies are to investigate the effect of removal of plant residue from sugarcane field on sugarcane production and soil fertility and the effect of application of fermentation residue from ethanol manufacturing plant on sugarcane production and soil fertility for sustainable sugarcane production. Care and maintenance activities are undertaken. Harvesting will be on February 2017.

II. PRODUCTION SUPPORT SERVICES

1. Laboratory Services

Eight hundred thirteen (813) soil samples from 311 sugarcane planters, 399 Block farm planters, 103 from government and private entities and researchers were analyzed for N (based on organic matter content of the soil), P, K, Ca, Mg and pH including 11 special analyses(% moisture) were analyzed in the Soils Laboratory as basis for the fertilization and recommendation. One hundred thirty-nine 139 juice samples from sugarcane planters/ clientele and 612 from SRA researchers were also analyzed.

2. Variety Garden and Collection and preservation of insect pest and natural enemies

A total of 78 released Phil, VMC and PSR varieties are being maintained in the variety garden while

323 preserved insect pests and natural enemies are preserved in the Crop Protection Laboratory.

3. Variety Garden/Germplasm Bank

Seventy-eight (78) released varieties of SRA and VMC/PSR are planted and maintained at the LAREC Variety Garden.

Varieties			Percentage
1.	Phil	50-01	- PR 902 x Badila
2.	Phil	53-33	- N: Co 330 x Alunan
3.	Phil	56-226	- POJ 2878 x CP 36-105
4.	Phil	58-260	- Q 47 x POJ 3016
5.	Phil	62-120	- Q 61 x NCo 330
6.	Phil	65-53	- Phil 5460 x NCo3
7.	Phil	66-07	- Phil 5660 x Co 440
8.	Phil	67-23	- NCo 310 x CP 36-105
9.	Phil	72-28	- CAC 58360 x Phil 5460
10.	Phil	72-70	- F 156 x CAC57-11
11.	Phil	74-64	- Co 440 x Phil 5460
12.	Phil	75-44	- F 156 x Phil 56-226
13.	Phil	77-79	- LGN 69 x Comus
14.	Phil	78-1440	- Phil 7522 x Phil 7536

15. Phil	80-13	- CAC 71-312 x Phil 64-2227
16. Phil	80-93	- Phil 6243 x Phil 7327
17. Phil	83-61	- Q 54 x LAREDO 52-604
18. Phil	84-77	- Mexico 57-473 x Phil 55-220
19. Phil	85-83	- Phil 80-5667 x NCo 330
20. Phil	87-15	- Phil 79-3385 x CP 50-28
21. Phil	87-27	-Phil 83-4669 x Phil 82-2551
22. Phil	88-29	- Phil 80-0685 x Phil 6317
23. Phil	88-35	- Phil 78-3881 x Phil 79-1497
24. Phil	88-39	- VMC 71-39 x Phil 66-07
25. Phil	89-43	- Q 102 x Phil 7115
26. Phil	90-0345	- Phil 7957 x Phil 79-3032
27. Phil	90-1237	- Phil 83-933-5029 x Q 102 TC
28. Phil	91-1091	- Phil 86-1119 x Phil 81-3415
29. Phil	92-0051	- CP 5028 x Phil 80-2287
30. Phil	92-0577	- Phil 79-0019 x Co 467
31. Phil	92-0751	- Phil 79-001 x Phil 64-2227
32. Phil	93-1601	- Phil 90-850343 x Phil 80-13
33. Phil	93-2349	- Q 102 x Phil 84-77
34. Phil	93-3155	- Phil 89-127-0815 x Phil 87-07
35. Phil	93-3727	- LAREDO 52-604 x Phil 80-4-0213
36. Phil	93-3849	- Phil 89-660-1511 x Phil 84-77
37. Phil	94-0913	- Phil 81-341-3415 x Phil 86-626-1691
38. VMC	71-39	- Phil 58260 x F 157
39. VMC	84-524	- VMC 68-368 x Phil 56226
40. VMC	86-550	- Phil 56-226 x ?
41. VMC	87-559	- VMC 76-505 x Phil 55-220
42. Phil	97-0693	- Phil 86-120-1119 x Phil 91-110-0807
43. Phil	97-1123	- Phil 88-626-1691 x Phil 91-110-0807
44. Phil	97- 2041	- Phil 90-0343 x Phil 92-3-0023
45. Phil	97-3501	- Q 102 x Phil 84-438-5799
46. Phil	97-3933	- Phil 91-54-0479 x Phil 8715
47. Phil	98-0255	- Phil 92-0751 x Phil 88-620-1413
48. Phil	99- 0925	- Phil 92-29-0535 x Phil 91-182-1217
49. Phil	99- 1793	- Phil 93-236-3301 x Phil 84-77
50. Phil		- Phil 83-129-3401 x Phil 80-13
51. Phil	99- 2641	- Phil 81-341-3415 x Phil 88-620-1413
52. Phil	99- 1427	- Phil 83-129-3401 x VMC 90-239
53. Phil	00-2569	- Phil 85-23-4345 x Phil 89-43
54. PSR	00- 0791	- VMC 84-947 x Polycross
	00-343	- VMC 84-194 x Phil 89-43
55. PSR	00-34	- VMC 86-550 x VMC 87-599
56. PSR	00-161	- Phil 93-300-1027 x Phil 92-32-0577
57. Phil	00-1893	- Phil 92-440-075 x Phil 83-333-4097
58. Phil	00-1491	- Phil 88-121-0363 x Phil 92-1043
59. Phil	00-1419	- Phil 93-65-0775 x Phil 84-53-2401
60. Phil	00-0881	- Phil 8717 x Phil 90-1187-1237
61. Phil	00-2417	- Akoki Green x VMC 90-239
62. Phil	00-2155	- VMC 90-239 x Phil 88-620-1413
63. Phil	01-0295	- Phil 93-3849 x VMC 87-599
64. Phil	02-0359	- Q102 x Phil 92-44-0751
65. Phil	02-0421	- Phil 93-34-0385 x Phil 92-41-0727
66. Phil	03-0021	- Phil 89-39-0455 x Phil 88-620-1413
67. Phil	03-1389	- Phil 93-4027 x Phil 92-190-2349
68. Phil	03-1727	- Phil 8717 x Phil 90-1187-1237
69. Phil	04-0081	- Phil 8717 x Phil 90-1187-1237

70. Phil	04-0827	- Phil 8717 x Phil 90-1187-1237
71. Phil	04-1011	- VMC 90-239 x Phil 94-0913)
72. Phil	05-1197	- Phil 93-34-0385 x Phil 00-156-1161
73. Phil	05-0055	- Phil 79-57-1915 x Phil 97-0693
74. Phil	05-0483	- Phil 8829 x Phil 99-0383
75. Phil	05-1763	- Phil 78-86-3981 x Phil 93-65-0775
76. Phil	05-0645	- Phil 92-0051 x Phil 93-2349
77. Phil	06-1899	- Phil 98-258-3403 x Phil 8477
78. Phil	06-2289	

Collection and preservation of insect pest and natural enemies

I. Insect Pests	**No. of Specimens**	
Order Coleoptera		
1. Scarabaedae		
a.) Leucopholis irrorata	Adult grub	165 3
b.) Holotrichia vidua	adult	32
c.) Anomala anogutata	adult	23
2. Elateridae		
a) Melanotus sp.	adult	3
3. Lucanidae		4
4. Chrysomellidae		4
5. Dynastidae		5
6. Coccinellidae		6
7. Curculionidae		2
Order Lepidoptera		
1. Crambidae	adult	13
2. Schoenobiidae	adult	3
3. Noctuidae	adult	18
4. Pieredae		13
	Total	294
II. Natural Enemies		
Order Coleopera		
1. Coccinellidae		
a) Monchilus sexmaculatus		11
b) Micraspis crocea		2

c) Harmonia octomaculata		2
d) Aulacophora similis		4
2. Carabidae		
a) Carabus sp.		4
3. Lampyridae		2
4. Curculionidae		
a) Metapocyrtus sp.		4
	Total	**29**
	Grand Total	**323**

III. HYV propagation and canepoint propagation

A total of **320.017** lacsa of HYV three-eye canepoints were distributed to sugarcane farmers in Pampanga, Tarlac, Cagayan, Isabela and Batangas.

VISAYAS

La Granja Agricultural Research & Extension Center (LGAREC)

PRODUCTION TECHNOLOGY AND CROP MANAGEMENT SECTION (PTCM)

The Production Technology and Crop Management (PTCM) at SRA-LGAREC conduct researches to generate farming technologies to enhance productivity and reduce cost of production. The section is also in charge of other support projects such as rapid propagation of high yielding varieties through micro propagation technique, vermicomposting and beneficial microorganisms (BMO) production for use as organic fertilizer of high yielding varieties of the station. Most of the sections' clientele are sugarcane planters, planters' cooperative and agriculture students from different colleges and universities.

For this crop year, PTCM has a total of five completed studies, two of which deal with organic fertilizer using beneficial microorganisms, one on harvesting practices, one on timing of fertilization and a demonstration project on SRA technologies.

COMPLETED STUDIES

Effect of lime placement and time of fertilization on the growth and yield of sugarcane.

The study was conducted to evaluate the influence of lime placement and time of fertilization on sugarcane yield and chemical properties of Guimalaon sandy soil. Results showed that application of full dose of recommended fertilizer 45 days after planting (DAP) and split dose fertilization done 45 DAP and 75 DAP significantly increased cane and sugar yields of Phil 2005-0645 compared to split dose fertilization applied basal at planting and 75 DAP. Lime placement did not significantly influence sugarcane yield.

Furrow application of lime gave significantly higher LKg/TC than placement between rows 60 DAP. There was no significant interaction between lime placement and time of fertilization. On the other hand, soil analysis after cropping of Phil 2005-0645 showed significant differences in % O.M., ppm K, ppm Ca and ppm Mg, as influenced by lime placement. Generally, highest values were observed on lime applied in the furrow.

Effect of rock phosphate from different sources in Negros Occidental with BMO application.

Five rock phosphate from Negros Occidental were tested against two commonly used inorganic phosphate fertilizers, 18-46-0 and 16-20-0. These were applied in combination with BMO. Although, application of rock phosphate in combination with BMO did not significantly influence cane yield (TC/Ha), sugar yield (LKg/Ha) and sugar rendement (LKg/TC) of Phil 2000-2569, the yields for three croppings averaged from 106.66 – 117.67 TC/Ha, 227.07 – 254.73 LKg/Ha, and 2.12 – 2.17 LKg/TC among treatments.

Sugar Rendement and weight decline due to cutting and delayed milling of high yielding varieties.

The study was conducted to determine the effect of various cutting and delayed milling on sugar rendement and weight of HYVs. Varieties Phil 2000-0791, Phil 2003-1389, Phil 2004-1011, Phil 2004-0827, Phil 2005-0645 and Phil 2006-1899) were subjected to various degrees of cutting (whole stalk, 2, 4, 6 and 8 cuts) and days delay in milling (0, 2, 5 and 8). In most cases, sugar rendement of high yielding varieties was significantly affected by delay in milling. Gradual decline was observed with delay in milling. Decline was more pronounced at five days onward. On the other hand, weight loss was observed highest on Phil 2003-1389 having 23.43% when cut into eight pieces and milled eight days after cutting.

Growth and yield of high yielding response of six new high yielding varieties to beneficial microorganism

On the use of beneficial microorganisms, high yielding varieties such as Phil 2000-2569, Phil 2004-0827, Phil 2003-1389, Phil 2004-1011, Phil 2000-0791 and Phil 2005 0645 were used in this study. One half of the nitrogen fertilizer recommendation was substituted with beneficial microorganisms. The results of the study showed that growth parameters such as plant height and number of tillers at three and six months after planting were significant however yield parameters were not significant. Numerically, Phil 2000-2569 got the highest sugar yield of 268.16 LKg/Ha while Phil 2005-0645 had the lowest with 204.59 LKg/Ha.

Yield performance of four Phil HYVs under reduced inorganic fertilization supplemented with mudpress and BMO in limed *Guimbalaon* soil

The demonstration project was laid out to showcase the yield performance of four SRA bred high yielding varieties fertilized with 75% recommended rate of NPK, using rock phosphate as a source of P fertilizer, supplemented with 5 tons/ha mudpress and beneficial micro-organisms at 8 gallons/ha in limed gambling sandy soil and evaluate the effect on the chemical properties of the soil.

Results showed that Phil 2004-1011 gave the highest cane yield of 91.65 TC/Ha, followed by Phil 2000-0791 with 85.69 TC/Ha, followed by Phil 2004-0827 with 84.30 TC/Ha, and Phil 99-1793 with 83.08 TC/Ha**.** In sucrose content, Phil 99-1793 gave the highest value of 2.21 LKg/TC, followed by 2004-0827 with 2.18 LKg/TC, followed by Phil 2004-1011 with 2.08, and Phil 2000-0791 with 2.01 LKg/TC. The highest sugar yield of 190.02 LKg/Ha was obtained from Phil 2004-1011, followed by Phil 99-1793 with 183.93 LKg/Ha, followed by Phil 2004-0827 with 183.69, and Phil 2000-0791 with 172.23 LKg/Ha. Relative to the initial analysis, the organic matter, phosphorus, potassium, and calcium content of Guimbalaon sandy loam soil increased after cropping; while, soil pH slightly decreased. Soil magnesium and aluminum decreased.

ON- GOING FIELD PROJECTS

1. Variety x fertilizer – The study was conducted to determine the amount of NPK fertilizer needed by test varieties used. Lay out for Phil 2005-0645 was conducted last December 2015 and harvested December 2016. Collected data are analysed and evaluated. The study will be terminated in 2017 due to labor constraints. Phil 2006 series was laid October 2015 and was harvested October 2016. Collected data are analysed and evaluated. The study is on its 1st ratoon crop.

2. Ratoon performance of Phil 2003 and Phil 2004 series - The study was conducted from December 2013 to December 2016 to determine the ratooning capacity of 2003-2389, Phil 2004-0827 and Phil 2004-1011. Initial data gathered showed the average cane yield of the three test varieties in three years were 102.27 TC/Ha for Phil 2003-2389, 95.66 TC/Ha for Phil 2004-1011 and 92.69 TC/Ha for Phil 2004-0827.

3. Influence of season of planting on growth and yield of five high yielding varieties – The study was laid out last April 2015 for dry season and October 2015 for wet season. Growth and yield data are analysed and evaluated.

4. Ratooning capacity of new high yielding varieties – The study was laid out December 2016 to determine the ratooning capacity of Phil 2006 and 2007 series.

5. Variety X season of planting – The study was laid out to determine the performance of two Phil 2006 series varieties in three planting seasons namely: early (October 2016), middle (December 2016) and late (February 2017). The study will continue up to the 1st ratoon crop.

6. Tolerance of varieties to natural drought condition- The study was laid December 2016 to determine the growth and yield performance of two Phil 2006 series in natural drought condition.
7. Variety x age at harvest – Laid out December 2016 to determine the yield performance of two Phil 2006 series harvested at 10, 11 and 12 months after planting.
8. Varietal response to vermicompost fertilization – The study was harvested October 2016, data gathered are analysed and evaluated.

9. Response of micropropagated plantlets to different soil texture (Guimbalaon soil) at varying levels of fertilization (Study 1- Sandy Clay Loam and Study 2 - Sandy Loam) . – The study was harvested October 2016. Initial data showed the highest cane yield of Phil 2004-1011 for the plant cane and ratoon crop for Study 1 was observed on Treatment 1(T1) having 100% Recommmended Rate of fertilization at 99.9 TC/Ha and 92.2 TC/Ha, respectively. On Study 2, highest cane yield was observed on Treatment 2 (75 % Recommended Rate fertilization) and Treament 1 for plant cane and ratoon crop at 86.1 TC/Ha and 65.98 TC/Ha, respectively.

10. Variety x fertilizer 2007 series – Laid out last December 2016. The study aimed to determine the fertilizer requirements of the test variety.

Most of the studies are agronomic tests for Phil 2006 and 2007 series. These were laid out to obtain agronomic data for the total cultural packaging of new varieties prior to its release to planters and stakeholders.

SUPPORT PROJECTS

The **Micropropagation** project distributed a total of 394, 401 plantlets. From these released plantlets, 373,890 were sold, 4,490 were given for demonstration purposes and 16,021 were used for propagation at the station. Percentage distribution of varieties was: Phil 2000-0791 (53.49%), Phil 99-1793 (41.83%), Phil 2006-2289 (1.99%), Phil 2007-0563 (1.16%), Phil 2004-1011 (. 83%), Phil 2006-1899 (. 46%), Phil 2008-0909 (. 24%) and Phil 6607 (. 004%). A total of 50,000 plantlets are still in the laboratory while more than 100,000 plantlets are on the hardening stage in the nursery. For **vermi-compost** production, a total of 11,698 kilos of fresh compost were produced. These were used mostly as organic fertilizer for propagation of high yielding varieties. The project also catered hands on training on vermi-culture to agriculture students of different colleges and universities. On production of **beneficial microorganisms (BMO),** 585 gallons were produced this year, of which 558 gallons were served to farm services section and 24 gallons to a planter. The **variety garden** on the other hand were planted with Phil 2006 series and canepoints produced were used for experimental purposes.

Collaborative Projects

PTCM technical staff and science aides participated in the layout and other activities of two collaborative projects. These were: Revalidation of SRA Fertilizer Recommendation and Nitrogen Leaching in Sugarcane Fields. The projects were laid out in different parts of Negros such as Manapla, Kabankalan, La Castellana, Sagay and Bais. The projects were under the direct supervision of Soils Laboratory section of LGAREC.

Other Activities of the Section

The technical staff acted as resource speakers during Outreach Program for Sugarcane Industry (OPSI) seminar (batches 137-139). Topics handled were pH and liming of sugarcane, land preparation, preparation of planting materials, planting and replanting, cultivation, harvesting, ratooning and methods of rapid propagation of high

yielding varieties. Likewise, agriculture students attended farm practice and on the job training. Among the schools who participated were as follows: Central Philippine State University, Kabankalan, Negros Occidental, Central Philippine Adventist College, Murcia, Negros Occidental, West Visayas State University, Iloilo City, Central Philippine University, Iloilo City, La Carlota City College, La Carlota City and University of Negros Occidental Recoletos, Bacolod City.

On staff development, three technical men of the section attended various trainings, seminars and convention. Solena Tahum and Ma. Theresa Alejandrino attended the seminar on Certified Reference Materials and Proficiency Testing in Analytical and Microbiology Laboratories last September 16, 2016 in Bacolod City. Teresita B. Bañas, Solena Tahum and Ma. Theresa D. Alejandrino attended the PHILSUTECH Convention (Aug. 15-19, 2016) in Lahug, Cebu City in which one paper entitled "Comparative Effect of Rock Phosphate from five local sources on Sugarcane Yield" was presented by Solena B. Tahum. The three also attended the In-House Review and Technical Writing workshop conducted in LAREC, Pampanga on September 22-29, 2016. Teresita B. Bañas attended the "Accreditation of Fertilizer and Pesticide Researchers" in Bajada, Davao City last November 15-19, 2016.

VARIETY IMPROVEMENT AND PEST MANAGEMENT SECTION (VIPM)

For the year 2016, 34 projects were conducted by the Variety Improvement and Pest Management (VIPM) Section: 28 on the different stages of the Sugarcane Variety Improvement Program, 4 support/continuing and 2 special projects. Of these, 19 were completed, 14 on-going and 1 deferred (National Cooperative Test (NCT).

PROJECTS UNDERTAKEN:

A. COMPLETED PROJECTS

1. **Pollination, Sowing and Seedling Care, Phil 2015 Series**

   During the 2015 breeding season, flowering of parental clones and varieties was late and of short duration with peak of full emergence observed on the first week of November 2015.

   Pollination work which started October 25 and ended December 4, 2015, utilized 68 female and 54 male selected parents. A total of 309 arrows from 221 biparental cross combinations were pollinated. From these, 306 arrows from 220 biparental crosses were harvested with three arrows destroyed.

   The sowing of fuzz in 220 seedboxes from November 18 to December 16, 2015 resulted in the germination of seedlings in 220 biparental crosses consisting of 307 arrows. Medium to very good germination was observed in 77.27 percent of the crosses. Overcrowded seedlings in 91 biparental crosses were pricked in 359 seedboxes.

   Seedlings in 575 seedboxes were given proper care and management like regular watering, fertilization, spraying of insecticides and fungicides, trimming of leaves, weeding and cultivation prior to transplanting in June and July 2016.

2. Single Seedling Plot Test, Phil 2014 Series

The 2014 hybridization work which produced a total of 43,614 seedlings from 198 bi-parental crosses were transplanted from July 18 to 22, 2015. From these, 24,565 seedlings from 198 bi-parental crosses survived in the field or a survival rate of 56.32 percent which was mainly due to the effects of poor and much delayed land preparation. All selected promising clones were recommended to the next stage, the Row Test, for further screening.

Selection in April 2016 using Phil 56-226 as control variety gave 698 promising clones from 125 bi-parental crosses. This result showed a selection percentage of 2.84 percent for seedlings and 63.13 percent for the crosses. All selected promising clones were recommended to the next stage, the Row Test, for further screening.

3. Row Test, Phil 2013 Series

Nine hundred six promising clones from the crosses in the Phil 2013 Series Single Seedling Plot test were planted in the Row Test in March 2015. From these, 306 promising clones were selected and forwarded to the next stage, the Multiplication and Disease Screening Stage.

4. Multiplication and Disease Screening

a. Phil 2012 Series

The top thirty clones were selected from Multiplication II, Phil 2012 Series as entries to the next stage, the Preliminary Yield Test, Phil 2012 Series based on their agronomic and morphological characteristics. One thousand canepoints for each clone were provided for LGAREC and LAREC Preliminary Yield Tests in preparation for the Ecological Test. Multiplication II started in August 2015 and ended in September 2016.

b. Phil 2013 Series

Three hundred six Phil 2013 Series clones selected from Row Test 2013 were multiplied (Multiplication I) and simultaneously tested for smut. Multiplication I was laid out and planted in January 2016. Care and maintenance of sugarcane plants were done based on SRA cultural practices. Two hundred four clones were selected for Multiplication II and Downy Mildew screening in August 2016 based on their agronomic and morphological characteristics. Multiplication I, Phil 2013 Series started in January 2016 and ended in November 2016.

5. Smut Resistance Tests

a. Phil 2011 Series (PYT Stage, Plant Cane & Ratoon)

Thirty Phil 2011 Series clonal entries to the Preliminary Yield Test were tested against sugarcane smut. In the plant cane, 6 clones were rated very highly resistant, 2 highly resistant, 3 resistant, 4 intermediate resistant, 3 intermediate susceptible and 12 very highly susceptible to the disease. In the ratoon, 5 clones were rated very highly resistant, 1 highly resistant, 2 resistant, 4 intermediate resistant, 6 intermediate average, 3 intermediate susceptible, 5 susceptible, 3 highly susceptible and 1 very highly susceptible.

b. Phil 2013 Series at Row Test

Two hundred twenty five Phil 2013 Series clones selected from the Row Test were screened for smut. Results showed that 205 clones were very highly resistant, 9 resistant, 7 intermediate resistant, 1 intermediate average, 1 highly susceptible and 2 very highly susceptible to the disease. Clones with ratings 1-4 were recommended for further testing in the next stage of the breeding program.

6. Downy Mildew Resistance Test, Phil 2012 Series (Plant Cane & Ratoon)

One hundred eighty Phil 2012 Series clones were tested against downy mildew of sugarcane. In the plant cane, 169 clones were rated very highly resistant, 9 highly resistant, 1 resistant and 1 intermediate resistant to the disease. In the ratoon crop, 89 clones were very highly resistant, 36 highly resistant, 16 resistant, 13 intermediate resistant, 7 intermediate average, 4 intermediate susceptible, 6 susceptible, 1 highly susceptible and 8 very highly susceptible to the disease. All clones in the plant cane were recommended for further testing in the next stage.

7. Yellow Spot Resistance Test, Phil 2011 Series

Thirty Phil 2011 Series clones were rated for resistance to yellow spot disease. Five clones were very highly resistant, 13 highly resistant, 9 resistant, 2 intermediate resistant and 1 intermediate average to the disease.

8. Leaf Scorch Resistance Test, Phil 2011 Series

Thirty clones of the Phil 2011 Series were rated for resistance to leaf scorch of sugarcane. Six clones were very highly resistant, 14 highly resistant, 8 resistant, 1 intermediate resistant and 1 intermediate susceptible to the disease.

9. Preliminary Yield Test, Phil 2011 Series

Thirty Phil 2011 series clones selected from Multiplication II were planted in April 2015 to evaluate their agronomic and yield performances.

Fourteen (14) clones stood out in tonnage but were statistically comparable to the two controls, Phil 8013 and VMC 86550. Six clones were lower than the two controls while ten clones were statistically lower than Phil 8013 but comparable to VMC 86550. In LKg/TC, thirteen clones showed high sucrose content but statistically comparable to the two control varieties. Twelve clones were statistically lower than the two controls while five were statistically lower than VMC 86550. Eight clones showed high LKG/Ha but were statistically comparable to the two control varieties. Fifteen clones were low in sugar yield than the two controls while seven were statistically lower than Phil 8013.

Results of the study showed ten (10) selected promising clones recommended for further evaluation to the next stage of Sugarcane Variety Improvement Program, the Ecologic Test.

Following are the test clones selected as entries to the Ecologic Test: Phil 2011-14-0237, Phil 2011-159-1683, Phil 2011-69-0899, Phil 2011-62-0449, Phil 2011-74-0827, Phil 2011-116-1121, Phil 2011-80-1075, Phil 2011-148-1631, Phil 2011-173-1711, and Phil 2011-81-1013.

10. Propagation II, Phil 2011 Series

Thirty selected varieties of Phil 2011 Series were planted and propagated in SRA-LGAREC from November 2015 to August 2016 in preparation for Propagation III, the source of planting materials for the Ecologic Test in different locations nationwide. From these varieties, 10 were selected as entries to the Ecologic Test to be laid out in November 2016. The ten varieties selected and to be propagated in Propagation III are: Phil 2011-14-0237, Phil 2011-159-1683, Phil 2011-69-0899, Phil 2011-62-0449, Phil 2011-74-0827, Phil 2011-116-1121, Phil 2011-80-1075, Phil 2011-148-1631, Phil 2011-173-1711 and Phil 2011-81-1013.

11. Ecologic Test, Phil 2008 Series (Plant Cane & Ratoon)

The plant and ratoon crop performances of ten Phil 2008 series sugarcane varieties were evaluated in four mill districts in Negros and Panay Islands from November 2013 to February 2016.

Variety-mean tonnage yield in the plant cane was highest in Phil 2008-0909 (108.36 TC/ha) and lowest in Phil 2008-1307 (78.76 TC/ha) while in the ratoon crop, highest tonnage yield was with Phil 2008-1009 (89.46 TC/ha) and lowest in Phil 2008-1307 (65.10 TC/ha). Location data in plant cane revealed highest tonnage yield in La Carlota followed by Passi, Bais and Victorias with highest potential yield of 116.47 TC/ha attained by Phil 2008-1009 in Victorias. In the ratoon crop, highest tonnage yield was in Victorias followed by Bais, La Carlota and Passi with highest potential yield of 103.79 TC/ha attained by Phil 2008-1009 in Victorias.

The test varieties in the plant cane were comparable if not lower in sucrose content than the two controls. Phil 8013 had the highest variety mean LKg/TC (2.27 LKg/TC) and Phil 2008-1009 the lowest (1.80 LKg/TC). Canes were sweetest in Bais, followed by La Carlota, Passi and Victorias. In the ratoon crop, sucrose content was highest in VMC 86-550 (2.25 LKg/TC) and lowest in Phil 2008-1009 (1.76 LKg/TC). Sweetest canes were in La Carlota, followed by Passi, Victorias and Bais.

Variety-mean sugar yield in the plant cane was highest in Phil 2008-0909 (230.88 LKg/ha) and lowest in Phil 2008-0033 (165.45 LKg/ha) while in the ratoon crop, highest sugar yield was in Phil 2008-0909 (173.81 LKg/ha) and lowest in Phil 2008-0747 (138.28 LKg/ha). Sugar yield in plant cane was highest in La Carlota followed by Bais, Passi and Victorias with highest potential sugar yield of 263.94 LKg/ha attained by Phil 2008-0909 in La Carlota. In the ratoon crop, highest sugar yield was in Victorias followed by La Carlota, Bais and Passi with highest potential sugar yield of 216.25 LKg/ha attained by Phil 2008-0909 in Victorias.

Phil 2008-0161 had the tallest stalks, Phil 2008-0909 the highest in number of millable stalks produced per sqm and Phil 2008-1009 the biggest and heaviest stalks in both plant and ratoon crops.

Phil 2008-0909 was the only test variety which gained in tonnage and sugar yields in all test locations while Phil 2008-0161 surpassed the local control without incurring losses in tonnage and sugar yields in both plant and ratoon crops. These varieties are high in tonnage, medium to high in sucrose content, not flowering to sparse flowering; resistant to smut, downy mildew, leaf scorch and yellow spot. These

varieties were grown in Isabela clay, Guimbala-on loam, Silay fine sandy loam and Alimodian clay soils. These varieties are recommended for further evaluation by the Variety Committee.

12. Germplasm Collection, Characterization and Maintenance

One thousand two hundred eighty five (1,285) sugarcane accessions were maintained in the Germplasm Collection area for the year 2016. Additional eight new accessions were entries from Ecologic Test Phil 2008 series while eight accessions from the Ecotest 2007 series was found questionable and hence, removed from the collection. Furthermore, 15 accessions from the IBPGR collection did not survive due to animal grazing. Eight hundred thirteen clones/varieties were partially characterized agronomically. Tiller number, aerial roots and degree of flowering were the data gathered on the characterization to primarily provide necessary information for selection of parent materials

13. Mass Production of *Trichogramma* Strips for the Control of Borers

The mass production of *Trichogramma* as a potential biological control agent against sugarcane stem borers of the Sugar Regulatory Administration, La Granja Agricultural Research and Extension Center gave a significant impact to the sugarcane planters as well as to rice, corn and vegetable farmers not just only in the province of Negros Occidental but in Negros Oriental and Panay Region for the past years. Of the *Trichogramma* species maintained, *T. chilonis*, the egg parasitoid to stem borers of sugarcane is the most in demand by clients followed by *T. japonicum*, *T. bactrae and T. evanescens* for Lepidopterous pests of rice, corn and vegetables.

The increasing present demand of sugarcane planters and farmers is an evidence of its significance as biological control agent. T*richogramma* is an egg parasitoid that kills the pest before it can cause any damage to the plant.

From January 2016 to December 21, 2016, the project produced 33,551 strips of *Trichogramma*. A total of 25,466 strips were distributed to clients as follows: sugarcane planters - 19,835 strips, rice farmers - 1,071 strips and sugarcane researchers - 4,560 strips. The rest of the strips were used as starters.

***TRICHOGRAMMA* DISTRIBUTION**
(January – December 21, 2016)

LOCATION	NAME OF PLANTER/FARM	CROP	NO. OF STRIPS
NEGROS OCC.			
Bacolod City	1. Moses Ledesma	Sugarcane	440
	2. Noreen Diaz	-do-	6
	3. Archie Acuña	-do-	100
	4. Helen Estandarte	-do-	200
	5. Jerry Ascalon	-do-	3,020
	6. Ofc. of the Provincial Agriculturist/Nolito Carinal	Rice	300
Bago City	7. Jun Hilado	Sugarcane & Rice	2,025
	8. Reno Mugar	Sugarcane	100

	9. Roberto Tinsay	-do-	660
	10. Belgian Dizon	-do-	20
Binalbagan	11. Oscar Yusay	-do-	60
	12. Ma. Cecilia Shiela Javelosa	-do-	120
	13. Luis Zuluaga	-do-	310
Cadiz City	14. Railside Agri. Devt. Corp./ Cristina Corro	-do-	5,200
Calatrava	15. Hda. Bernardita Cooperative	-do-	80
E.B. Magalona	16. BJB Agro-Industrial Corp., Inc./Ma. Regina Martin	-do-	3,287
Isabela	17. Nicolas Kramer	-do-	700
	18. Angelo Llamas	-do-	150
Kabankalan City	19. Andy Carampatana/Kabankalan Agriculture Ofc.	Rice	271
	20. John Christian Buenafe	Sugarcane	119
La Carlota City	21. Rene Colmenares	-do-	50
	22. Lolita Tuazon	-do-	75
	23. Roger Candido	-do-	100
LGAREC, La Granja	24. Farm Services	-do-	430*
VIPM	25. Juval Velasco	-do-	970*
	26. Ma. Lourdes Almodiente	-do-	2,170*
PTCM	27. Ma. Theresa Alejandrino	-do-	370*
	28. Sol Tahum	-do-	240*
	29. Teresita Bañas	-do-	120*
Soils Laboratory	30. Gina Cahilig	-do-	260*
La Castellana	31. Vanito Ilanga	-do-	100
Moises Padilla	32. Cristina Montilla	-do-	872
	33. Leonard Malalu-an	-do-	34
	34. Petronila Garcia	-do-	600
	35. Ronald de la Serna	-d-	20
Pulupandan	36. Federico de la Cruz	-do-	370
	37. Daniel Cordero	-do-	450
Silay City	38. Cara Golez	-do-	500
NEGROS OR.			
Vallehermoso	39. BUCFA Association	-do-	20
BATANGAS	40. Dionisio Fernandez II	-do-	37
		TOTAL	**25,466**

* *For research use*

14. Sugarcane Disease Garden as Source of Inocula for Resistance Trials

Seven varieties namely: Phil 6111, Phil 7464, Phil 7779, Phil 8839, Phil 8013, Phil 56226, VMC 86550 and mixed clones were propagated last January 2016 to augment inocula for disease resistance studies. These varieties served as resistant and susceptible checks for resistance trials to smut, downy mildew, yellow spot and leaf scorch.

15. National Cooperative Test I (NCT I)

The National Cooperative Test (NCT) is a collaborative study between SRA and UPLB. Promising sugarcane varieties will be evaluated through this project under the National Seed Industry Council (NSIC). The Sugarcane Technical Working Group (STWG) composed of members from SRA, PHILSURIN, BPI, IPB, UP La Granja, UPLB and PCARRD was organized and mandated to implement this project.

Selected varieties from the Preliminary Yield Test (PYT) of the two breeding institutions (SRA & IPB-UPLB) will be submitted to STWG for NCT consideration. These varieties will be tested in 15 locations representing unique agro-ecological zones of sugar producing regions in Luzon, Visayas and Mindanao to be divided among the three clusters: LGAREC, LAREC & UPLB (both plant and ratoon crops) for STWG evaluation.

A variety can only be released if the yield performance is significantly higher than or at least comparable with the established check varieties.

This project will replace the Ecologic Test which is the 7th Stage of the Breeding Program of SRA to be funded by SIDA.

Propagation, maintenance and distribution of planting materials for 15 locations of NCT were shouldered by SRA. These planting materials are now ready for cutback to be shipped to LAREC & UPLB as soon as NCT budget will be downloaded to the different clusters.

16. Sugarcane Genome Project 2:

"Application of Molecular Breeding Techniques in Sugarcane Improvement"

Sugar Regulatory Administration was able to select two potential sugarcane parentals namely Phil 2011-49-0809 and Phil 2011-83-1005. Phil 2011-49-0809 being a moderate tillerer with 4 average tillers, has moderate size of stalks with 2.9 cm average stalk diameter, and is very sweet with a Brix reading of 25.4. It also has a slightly above average weight per stalk of 1.2 kg, and is a very sparse flowerer. On the other hand, Phil 2011-83-1005 is a high tillering variety with an average of eight stalks per stool, having big stalks with an average stalk diameter of 3.2 cm, and is very sweet with a Brix reading of 23.6, Moreover; this variety has above average weight per stalk of 1.6 kg and has been observed to be non-flowering. Although this variety was observed to be non-flowering, with a favourable environmental condition for flowering and exceptional moisture and fertilizer stress, this variety could still flower and can be used as a parental.

Primers for smut, downy mildew and sucrose content were received only on the third week of June of the third year of implementation (2016) or almost two months before the end of the study. As a result, the assembled varieties and clones were only tested on mssCIR10 and mssCIR12, both primers for downy mildew disease. Downy mildew disease resistant control varieties were composed of highly resistant varieties and clones specifically: Phil 97-3933, Phil 8477, Phil 8829, Phil 94-0913, Phil 93-1601 and Phil 8361. On the contrary, downy mildew disease susceptible control varieties were composed of highly susceptible varieties and

clones namely: VMC 86-550, Phil 89-36-0455, Phil 90-19-0085, Phil 93-118-1207 and Phil 93-236-3301. Using mssCIR10 primer, analysis of control varieties both resistant and susceptible gave a correlation value of 0.6901. When tested to forty one clones and varieties including that of the control, analysis of the primer resulted to a correlation value of 0.4970. Likewise, primer mssCIR12 also resulted to 0.8333 correlation value when tested to control varieties with established downy mildew resistance reaction. This indicates that primer mssCIR10 and mssCIR12 are highly associated to downy mildew resistance based on the results of this study and can be used for early selection of sugarcane for downy mildew resistance screening.

17. Sugarcane Genome Project 3:

"Development of New Sugarcane Varieties Using Marker-Assisted Selection"

The Sugar Regulatory Administration selected five promising sugarcane varieties namely Phil 2011-0827, Phil 2011-1097, Phil 2011-1711, Phil 2011-0169 and Phil 2011-1057. Phil 2011-0827 being a heavy tillerer with an average of eight tillers, has big stalks with 3.4 cm average stalk diameter, and is sweet with a Brix reading of 22.0. It also has a moderate stalk weight of 1.0 kg, and is a very sparse flowerer. Phil 2011-1097 is a high tillering variety with an average of seven stalks per stool, having big stalks with an average stalk diameter of 3.0 cm, and is very sweet with a Brix reading of 23.8, Moreover; this variety has slightly above average weight per stalk of 1.3 kg and has been observed to be very sparse flowering. Phil 2011-1711 is a very heavy tillering variety with 12 stalks per stool, considerably big with 3.1 cm average stalk diameter, and is sweet averaging 21.8 Brix reading. In addition, this variety weighs slightly above average with 1.1 kg per stalk and also a very sparse flowerer. Phil 2011-0169 is also a high tillering variety averaging nine stalks per stool, with average big stalks of 3 cm, and is sweet averaging 22,2 Brix reading. A heavy variety with 1.5 kg per stalk and observed to be non-flowering. Last in the list is Phil 2011-1057 with moderate to high tillering of five stalks per stool, has big stalks of 3.2 cm diameter, and is likewise sweet averaging 22.0 in Brix reading. Likewise, it is a heavy variety averaging 1.6 kg per stalk and was observed to be non-flowering.

Primers for smut, downy mildew and sucrose content were received only on the third week of June of the third year of implementation (2016) or almost two months before the end of the study. As a result, the assembled varieties and clones were only tested on mssCIR10 and mssCIR12, both primers for downy mildew disease. Downy mildew disease resistant control varieties were composed of highly resistant varieties and clones specifically: Phil 97-3933, Phil 8477, Phil 8829, Phil 94-0913, Phil 93-1601 and Phil 8361. On the contrary, downy mildew disease susceptible control varieties were composed of highly susceptible varieties and clones namely: VMC 86-550, Phil 89-36-0455, Phil 90-19-0085, Phil 93-118-1207 and Phil 93-236-3301. Using mssCIR10 primer, analysis of control varieties both resistant and susceptible gave a correlation value of 0.8333. When tested to forty one clones and varieties including that of the control, analysis of the primer resulted to a correlation value of 0.61546. Likewise, primer mssCIR12 also resulted to 0.8333 correlation value when tested to control varieties with established downy mildew resistance reaction. This indicates that primer mssCIR10 and mssCIR12 are highly

associated to downy mildew resistance based on the results of this study and can be used for early selection of sugarcane for downy mildew resistance.

B. ON-GOING PROJECTS

1. Pollination, Sowing and Seedling Care, Phil 2016 Series

The crossing program for 2016 has the primary objective of producing high yielding and disease resistant varieties which could adapt to specific and wider ecologic zones of the country. As a secondary objective, the program aims to select parent materials with good agronomic characteristics, resistant to diseases and with good combining ability.

The 390 parent materials were planted/ratooned in a 2.6 hectares crossing block area from January to February 2016. A total of 1,210 stalks from 162 selected female parents were marcotted from September 1-5, 2016. Pollination work started October 24, 2016 and ended on December 4, 2016. Sowing and seedling care will continue up to transplanting of seedlings on May to July of 2017.

2. Single Seedling Plot Test, Phil 2015 Series

The 67,474 seedlings from 220 bi-parental crosses produced in the 2015 crossing program were transplanted in a 4.1728 hectare area from June 9 to July 15, 2016. Seedlings were transplanted singly along the furrows on holes previously made at a distance of one meter between furrows and 30 centimeters between seedlings. Three-eye cuttings of Phil 56226 were planted every 20 seedlings to serve as control during selection work. Survival count one month after transplanting showed 34,125 seedlings survived in the field or a survival rate of 50.58 percent which was mainly due to the effects of delayed land preparation and transplanting. Selection of promising clones will be made in March 2017.

3. Row Test, Phil 2014 Series

The field test was planted in April 2016 using 698 clones selected from the Single Seedling Plot test, Phil 2014 Series. Selection of promising clones shall be in January of next year.

4. Multiplication and Disease Screening, Phil 2013 Series

Multiplication I was planted in January 2016 using 306 clones selected from Row Test, Phil 2013 Series. At the same time, eighty three-eyed canepoints per clone were tested for reaction to smut. The promising clones which passed the Smut Test were planted in the next stage, Multiplication II.

Multiplication II was planted in August 2016.The plants are now 4 months old. Downy Mildew resistant clones shall be selected and passed as entries for the Preliminary Yield Test and First Propagation preparatory to the Ecological Test. Cutbacking shall be done in February of next year. Sufficient canepoints shall be provided for leaf scorch and yellow spot screening and smut verification.

5. Preliminary Yield Test, Phil 2012 Series

Thirty selected Phil 2012 Series clones from Multiplication II were planted as entries in the Preliminary Yield Test last April 2016. The canes are now eight

months old. Clonal entries for the National Cooperative Test shall be selected in April of next year.

6. **Propagation I, Phil 2012 Series**

   Thirty promising Phil 2012 Series clones from the Preliminary Yield Test were planted and propagated in SRA-LGAREC last April 2016 in preparation for Propagation II. The canepoints to be produced will be further propagated to increase number of planting materials needed for the National Cooperative Test in different locations nationwide.

7. **Propagation II, Phil 2012 Series**

   The 30 promising clones from Propagation I were further propagated to increase the number of planting materials needed for the National Cooperative Test in different locations nationwide.

8. **Propagation III, Phil 2011 Series**

   The ten varieties selected and propagated in Propagation III are: Phil 2011-14-0237, Phil 2011-159-1683, Phil 2011-69-0899, Phil 2011-62-0449, Phil 2011-74-0827, Phil 2011-116-1121, Phil 2011-80-1075, Phil 2011-148-1631, Phil 2011-173-1711 and Phil 2011-81-1013. These varieties are entries for the National Cooperative Test. These were planted last August 2016.

9. **Ecologic Test, Phil 2009 Series (Plant Cane & Ratoon)**

   The test varieties, namely: Phil 2009-1963, Phil 2009-1867, Phil 2009-1969, Phil 2009-0125, Phil 2009-1567, Phil 2009-0037, Phil 2009-2147, Phil 2009-0097, Phil 2009-0919 and Phil 2009-0015 planted in the five test sites were ratooned starting December 2015. Harvest started in November 2016 until February 2017.

10. **Ecologic Test, Phil 2010 Series (Plant Cane)**

    Ten test varieties selected from the Preliminary Yield Test, Phil 2010 Series were planted in four mill districts in Negros and Leyte from January to February 2016. Phil 8013 was the national control variety while VMC 86550 was the local control.

    The ten test varieties were as follows: Phil 2010-0149, Phil 2010-0487, Phil 2010-0107, Phil 2010-0645, Phil 2010-0077, Phil 2010-0385, Phil 2010-0105, Phil 2010-0733, Phil 2010-0353 and Phil 2010-0901. The study was laid out in Hda. De Fuego, La Carlota City; Hda. Villarosa, Calatrava; Inayawan, Cauayan in Negros Occidental and Curva, Ormoc City, Leyte. Harvest will start in January 2017.

11. **Downy Mildew Resistance Test, Phil 2013 Series (Plant Cane)**

    The study composed of 204 Phil 2013 Series clones was laid out in September 2016 and maintained in the field. Monthly disease ratings are taken until February 2017.

12. **Smut Resistance Test at PYT Stage, Phil 2012 Series**

    The field test was ratooned last September 2016. Disease ratings are taken every month for six months.

13. Yellow Spot Resistance Test, Phil 2012 Series

Thirty clones of Phil 2012 Series were planted in March 2016 for yellow spot screening.

14. Leaf Scorch Resistance Test, Phil 2012 Series

Thirty clones of Phil 2012 Series were planted in March 2016 for leaf scorch screening.

SOILS LABORATORY

SRA-LGAREC Soils Laboratory is mandated to deliver timely and accurate laboratory services thru soil analyses and sugarcane juice maturity testing for planters, farmers, fertilizer formulators, researchers and other walk in clients. Soils Laboratory primarily functions as a laboratory support arm of all the agricultural researches being conducted, tested and verified in the Research Center and undertakes technical studies relevant to the needs of the time.

A total of 2,365 samples were received and analyzed for Crop Year 2016. Of the total samples, 792 are soils both from the private planters and experimental units while 1,405 are sugarcane juice samples for maturity testing mostly from the different experiments in LGAREC; 156 juice samples of which are from private planters; 168 sugarcane leaves & stems were likewise tested for moisture from the research project. 165 private planters/walk ins submitted 448 soil samples representing 500 Has. (samples are from the Block Farms of Kabankalan, Bayawan, Mabinay,Passi); while the 344 soil samples are from our experimental stations and different Ecological test sites. (Table 1.)

Field validation/verification from nine (9) test sites within Negros Island (a joint undertaking of Bacolod-LGAREC Soils Laboratories & PTCM) were laid out last August 2015- February 2016 for 2 project studies: **Proj. 1** -Revalidation of Existing SRA Fertilizer Recommendation & **Proj. 2** - Efficiency Of N at different period of application on the Growth & Yield of Sugarcane. Seven of the test sites were already harvested , data gathered and stubble shaved for the ratoon cultivation. **Proj. 3 –** a collaborative field validation between SRA and JIRCAS was laid out last July, 2016 in STARFA, Dulao, Bago City. Growth survey, water sampling, sensor readings, ground parts sampling are underway until harvest time.

MOA & Project proposals for SIDA funded projects for 2016 which are **Upgrading of LGAREC Soils Lab & the 3 partners SUC's (CPSU, VSU & CSU**) and **MDDC Soils Lab of Lopez and First Farmers Sugarmills** had already been complied and Purchase Requisitions for the Capital Outlay are being processed.

Soils Laboratory is manned and operated by six highly trained and committed technical personnel continuously undergoing developmental training to upgrade and acquire latest trends in laboratory skills and methodologies. We are likewise, actively involved in the transfer and dissemination of our specialized field of expertise through our Outreach Programs for the Sugar Industry to students , researchers, farmers and other entities in the sugar industry.

I. CORE FUNCTION

Table 1. CY 2016 Monthly Breakdown of Samples Received & Analyzed

Month 2016	SOIL ANALYSIS			JUICE ANALYSIS			Grand Total	Analyses Fees (PhP)
	Walk-In	Expt'l	Sub Total	Walk-In	Expt'l	Sub Total		
January	55	38	93	0	148	148	241	5,500
February	66	4	70	0	308	308	378	6,600
March	30	0	30	0	28	28	58	3,000
April	10	0	10	0	50	50	60	1,000
May	38	0	38	0	74	74	112	3,800
June	28	8	36	0	50	50	86	2,800
July	12	9	21	0	24	24	45	1,900
August	54	6	60	0	28	28	88	5,400
September	47	24	71	9	52	61+56*	188	5,150
October	14	57	71	10	176	186+56*	313	1,900
Nov. & Dec.	94	198	292	137	311	448+56*	796	16,250
Total 2016	**448**	**344**	**792**	**156**	**1,249**	**1,573**	**2,365**	**53,300**

** sugarcane leaves & stems sample for moisture analysis*

SUMMARY OF SAMPLES RECEIVED & ANALYZED
CY 2016

A. Soil Samples

1. PRIVATE PLANTERS	HACIENDA/ADDRESS	MILL DISTRICT	NO. OF SAMPLES	AREA (Ha.)
January 2016				
1. Angelica Auguis	DHSB, La Carlota City	La Carlota	1	0.02
2. Ryan John Gamala	CPSU, Moises Padilla	La Carlota	1	0.02
3. KAUSWAGAN MPC	Pontevedra	La Carlota	6	6.74
4. Bernabe Omambong	Bungahin, Isabela	La Carlota	1	2.00
5. Nuary Emerald Juplo	DHSBNHS, La Carlota City	La Carlota	1	0.40
	"	La Carlota	1	0.02
6. Ma. Concepcion LaO	Cristina, La Castellana	La Carlota	3	2.34
	Hda. Celina,Canlaon II, La Castellana	La Carlota	3	3.60
7. Federico Raul Uriarte	Canlaon II, La Castellana	La Carlota	8	18.48
8. Jose Jalandoni	Kanlaon Farms, Hda.Chambery, Caduhaan,Cadiz City	Victorias	16	28.18
9. Luisa Ma. Uriarte	Canlaon I, La Castellana	La Carlota	4	3.70
10. MACARBEN COOP	Malaga, La Castellana	La Carlota	2	4.38
11. Jayson Villa	Brgy.Mabini, Pontevedra	La Carlota	1	1.00
12. Fe Abitan	VARC, Brgy.Gomez, Pontevedra	La Carlota	1	2.20
13. Johnny Moleño	"	La Carlota	1	1.05
14 Welina Saborda	"	La Carlota	1	1.00
15. HACARBA	La Castellana	La Carlota	4	4.59
Sub Total			**55**	**79.72**
February 2016				
1. Federico Raul Uriarte	Canlaon II, La Castellana	La Carlota	7	13.89
2. Central Phil. Adventist College	Alegria, Murcia, Neg. Occ.	La Carlota	1	1.00
3. Ma. Concepcion LaO	Celina/Cristina, la Castellana	La Carlota	9	13.44
4. Nuary Emerald Juplo	DHSBNHS, La Carlota City		2	2.00
5. Manuel Amahit	Tinaogan, Bindoy, Neg. Orr.	San Carlos	4	3.50
6. Pantaleon Maban	ISSFA, Inayawan, Cauayan, Neg. Occ.	Kabankalan	3	3.37
7. Editha Atanque	ISSFA, Inayawan, Cauayan, Neg. Occ.	Kabankalan	1	0.15
8. Fernando M. Calatrava	ISSFA, Inayawan, Cauayan, Neg. Occ.	Kabankalan	2	0.12
9. MACARBEN	La Castellana, Neg. Occ.	La Carlota	8	15.63

10.GMARC	Pontevedra, Neg. Occ.	La Carlota	4	6.16
11. Bernabe Gilbor	Pandan, Ma-ao, Bago city	Bago	2	4.25
12. Bernabe Gilbor	SVE, Bacong, Bago City	Bago	7	12.60
13. Luisa Maria G. Uriarte	Canla-on I, La Castellana	La Carlota	13	9.86
14. Segundo Maravilla	Sta. Julia, Su-ay, Himamaylan	Kabankalan	2	9.20
15. Joevic Bandada	Baga-as, Hinigaran	La Carlota	1	1.00
Sub Total			**66**	**92.80**
March 2016				
1. Ernesto Ramirez	ISSFA,Inayawan,Cauayan	Kabankalan	1	0.68
2. Rogelio Ramirez	ISSFA,Inayawan,Cauayan	Kabankalan	1	0.15
3. Alexander Diaz	ISSFA,Inayawan,Cauayan	Kabankalan	2	1.29
4. Edmundo Belarmino	ISSFA,Inayawan,Cauayan	Kabankalan	2	1.47
5. Giovanni Lontes	ISSFA,Inayawan,Cauayan	Kabankalan	1	0.76
6. Gaspar Siva	ISSFA, Inayawan, Cauayan, Neg. Occ.	Kabankalan	1	1.23
7. Ian K Dignadice	ISSFA, Inayawan, Cauayan, Neg. Occ.	Kabankalan	1	2.77
8. Angelina Emia	MPC,San Jose, Villa	Iloilo	1	0.60
9. Helen Villaruz	MPC,San Jose, Villa	Iloilo	1	1.00
10.Joevic Bon Aguirre	MARGA Farm,La Castellana	La Carlota	1	1.00
11. Sixto Amar, Jr.	VARC, Gomez, Pontevedra	La Carlota	1	0.50
12. PamelaCabrela	VARC, Gomez, Pontevedra	La Carlota	1	1.00
13. VARC Communal Farm	VARC, Gomez, Pontevedra	La Carlota	1	1.50
14. Josephine Fortunado	VARC, Gomez, Pontevedra	La Carlota	1	0.80
15. Patricio Salon	VARC, Gomez, Pontevedra	La Carlota	1	1.50
16. Bertito Hilado Jr.	VARC, Gomez, Pontevedra	La Carlota	1	1.00
17. Bertito Hilado, Sr.	VARC, Gomez, Pontevedra	La Carlota	1	0.50
18. Efren Montelibano	Tibyawan, Ayungon	Bais	1	3.25
19. Bethel de Olivera Lima	Concepcion, Talisay	Bacomur	1	3.00
20. Atlas Fertilizer Corp.	Hda.Marina, Hinigaran	La Carlota	1	1.40
21. Ricardo Tanjusay	Inayawan, Cauayan	Kabankalan	2	1.50
22. Rogelio Ramires	ISSFA,Inayawan,Cauayan	Kabankalan	2	1.50
23. Rosemarie Resolis	Langoni, Inayawan	Kabankalan	1	0.50
24. Vicente Adolfo	ISSFA,Inayawan,Cauayan	Kabankalan	1	0.21
25. Pablito Ologan	ISSFA,Inayawan,Cauayan	Kabankalan	2	2.88
Sub Total			**30**	**31.99**
April 2016				
1. DAFWARBA	Sitio Dama, Brgy. Cabacungan	La Carlota	2	5.34
2. GMARC	Pontevedra	La Carlota	4	2.22

3. UPLB c/o M.Samson	Hda.Ricky, Sagay City	Sagay	3	3.00
4. Luisa Ma. Uriarte	Canla-on I	La Carlota	1	1.49
Sub Total			**10**	**12.05**
May 2016				
1. Maricon Gepolani	UPLB, La Granja	La Carlota	24	1.50
2. Hector Montinola	Hda. Alijis, Valladolid	Bacomur	4	7.70
3. Rochel Tamonang	TAFMPC Tayawan, Bayawan City	Tolong	1	1.00
4. Felomina Congson	TAFMPC Tayawan, Bayawan City	Tolong	1	1.00
5. Conchita de la Torre	TAFMPC Tayawan, Bayawan City	Tolong	1	1.00
6. Orlan Nobleza	TAFMPC Tayawan, Bayawan City	Tolong	1	1.00
7. Upemia Pastias	TAFMPC Tayawan, Bayawan City	Tolong	1	1.00
8. Joefrenz Gariza	TAFMPC Tayawan, Bayawan City	Tolong	1	1.50
9. Cornelia Viilagracia	TAFMPC Tayawan, Bayawan City	Tolong	1	1.00
10.Nilo Pilonggo	TAFMPC Tayawan, Bayawan City	Tolong	2	2.00
11. Jacinto Tangente	TAFMPC Tayawan, Bayawan City	Tolong	1	3.50
Sub Total			**38**	**2.20**
June 2016				
1.Maricon Gepolani	UPLB, La Granja	La Carlota	27	1.50
2. Erik Paguntalan	Gatuslao, Candoni, Neg.Occ.	La Carlota	1	3.00
Sub Total			**28**	**4.50**
July 2016				
1. Wenceslao Asuncion	SPUR 14, Salvador Benedicto, Neg. Occ.	La Carlota	4	8.50
2. Ana Rose Eleazar	Hda. Round, La Castellana, Neg. Occ.	La Carlota	5	5.58
3. Alyssa Rose Reovoca	La Carlota City College, Neg. Occ.	La Carlota	1	0.10
4.Rose Sarah S. Cañete	DHSBNHS, La Carlota City, Neg. Occ.	La Carlota	2	0.10
Sub Total			**12**	**14.80**
August 2016				
1. Lyndelle Mistas	DHSBNHS, La Carlota City	La Carlota	1	Plot size
2. Wenceslao Asuncion	Fenix, Binubuhan, Bago City	La Carlota	6	12.55
3. Kesia Mae Mabaling	La Carlota City	La Carlota	1	0.10
4.Kary Isabel Genosa	DHSBNHS, La Carlota City, Neg. Occ.	La Carlota	1	0.10

5. Larry Montinola	Hda. Alejandria, La Carlota City	La Carlota	1	2.00
6. Rhona Eupalan	Recreo, Pontevedra	La Carlota	1	1.00
7. Ivan Luke Baladhay	Brgy. Baliwagan, San Enrique	La Carlota	2	Plot size
8. Ma. Luz Lapating	Luyang,Mabinay, BMFA	Bais-Ursumco	3	0.90
9. Florenda Beronio	BMFA, Mabinay	Bais-Ursumco	1	0.30
10.Charlyn Acibron	BMFA, Mabinay	Bais-Ursumco	1	0.30
11. Saturnina Bastida	BMFA, Mabinay	Bais-Ursumco	2	1.50
12. Candido Baldoza	BMFA, Mabinay	Bais-Ursumco	1	0.70
13. Florencia Navales	BMFA, Mabinay	Bais-Ursumco	1	0.80
14. Vicvic Bahita	BMFA, Mabinay	Bais-Ursumco	1	0.80
15. Quirico Arnaiz, Jr.	Moises Padilla	La Carlota	1	0.50
16. Mary Rose Gerbolinga	Himamaylan	Kabankalan	4	Plot size
17. Faye Coleen Goza	Himamaylan	Kabankalan	1	dumpsite
18.Federico Raul Uriarte	Canlaon II, La Castellana	La Carlota	3	5.41
19. Ma. Concepcion Lao'	Celina, La Castellana	La Carlota	3	6.72
20. Sheila Marie Dancel	Himamaylan	Kabankalan	3	plot
21. Chulian Te Mktg. Corp.	Laray, Ipil, Ormoc City	Ormoc	7	26.00
	Colisao, Ormoc	Ormoc	3	1.80
	Colisao, Salvacion, Ormoc	Ormoc	2	2.80
	Juaton, Ormoc City	Ormoc	2	7.20
22. Mauro Buloron	Canla-on City	La Carlota	2	1.00
Sub Total			**54**	**72.48**
September 2016				
1. Luisa Maria G.Uriarte	Canlaon I, La Castellana	La Carlota	5	4.07
2. Ma. Concepcion La'O	Celina, La Castellana	La Carlota	3	6.91
3. Federico Raul Uriarte	Canlaon II, La Castellana	La Carlota	12	29.11
4.Victoria Demonteverde	Brgy. Pula, Canlaon City	La Carlota	3	0.96
5. David John Taronas	Pontevedra	La Carlota	6	1.50
6. Luisa Ma. Uriarte	Canlaon I, La Castellana	La Carlota	3	3.10
7. Federico Raul Uriarte	Canlaon I, La Castellana	La Carlota	3	7.25
8. Allan Rey Sumugat	CPSU, Hinigaran	La Carlota	8	7.32
9. Joevic Bon Aguirre	Magallon	La Carlota	2	3.60
10.Ronal De La Serna	Moises Padilla	La Carlota	1	0.08
11. Reno Lorayna	Had. Tonggoy,Brgy.Mailum, Bago	La Carlota	1	0.80
Sub Total			**47**	**64.70**

October 2016				
1. Federico Raul Uriarte	Canlaon II, La Castellana	La Carlota	2	2.92
2. Ma. Concepcion La'O	Celina, La Castellana	La Carlota	2	3.37
3. Arturo Ledesma	Hda. Salamanca, La Carlota City	Kabankalan	4	3.00
4.Juan Taronas	Hda. Pizon, Himamaylan	Kabankalan	1	1.00
	Hda. Jovic, Himamaylan	Kabankalan	1	0.50
	Hda. Dama, Himamaylan	Kabankalan	1	0.50
7. Ma. Cecilia Alaban	UPLB-Laguna	Kabankalan	1	Expt. plot
8. Cesar Salas	CARCO, San Carlos City	Kabankalan	1	3.04
9. Ricardo Rasonable	CARCO, San Carlos City	Kabankalan	1	1.00
Sub Total			**14**	**15.33**
November & December 2016				
1. Iloilo State College of Fisheries	San Enrique, Iloilo	Iloilo	3	3.98
2. Capiz State University	Capiz	Iloilo	5	6.45
3. Richard Nonar	Moises Padilla	La Carlota	1	0.05
4. Lawrence Montinola	Alejandria, La Carlota	LaCarlota	3	2.15
5. Ma. Concepcion Lao	Celina, La Castellana	La Carlota	4	9.35
6. Ma. Luisa Uriarte	Canla-on I, La Castellana	La Carlota	7	7.92
7. NAPFWA	Ma-ao, Bago	La Carlota	9	7.34
8. POPARBECO	Polo, Tanjay	Bais-Ursumco	1	2.95
9. DAFWARBA	Cabacungan, La Castellana	La Carlota	1	3.84
10. Ryan Sarimong	Isabela, Neg. Occ.	Biscom	8	4.00
11. Victoria Dugan	Kabankalan	Kabankalan	2	4.80
12. Telda Anilado	Himamaylan	Kabankalan	5	3.42
13. MAFARM	Sta. Catalina, Neg.Or.	Tolong	3	8.43
14. Francisco Gallego	Guimbalaon, Silay	Silay	3	0.78
15. Eduardo de Asis	"	Silay	1	3.56
16. Marion Gallego	"	Silay	1	1.19
17. Abelardo Condez Sr.	"	Silay	1	0.61
18. Abelardo Condez Jr.	"	Silay	1	0.53
19. Armando Gallego	"	Silay	1	0.73
20.DAFWARB	Cabacungan, La Castellana	La Carlota	1	1.05
21. Ryan Sarimong	Isabela, Neg.Occ.	Biscom	1	0.50
22. Reynaldo Saludares	Moises Padilla	La Carlota	1	0.05
23. Jojim Solar	"	La Carlota	1	0.08

24. Rocky Lumugdang	"	La Carlota	1	0.04
25. Jesrel Pacheco	"	La Carlota	1	0.08
26. Merlyn Demali	Mabinay	Bais Ursumco	2	1.25
27. Harry Sapo Talo	"	Bais Ursumco	1	0.43
28. Fermiliano Bohol	"	Bais Ursumco	1	1.85
29. Teresita Andaya	"	Bais Ursumco	2	1.63
30. Minandro Pagurayan	Passi, Iloilo	Iloilo	1	3.55
31. Efren Gonzales	"	Iloilo	2	5.11
32. Ronilo Vasquez Sr.	"	Iloilo	1	1.81
33. Minda Paraliza	"	Iloilo	1	0.50
34. Ireneo Pagal	"	Iloilo	1	0.20
35. Inocentes Legayada	"	Iloilo	1	0.58
36. Apolonio Gamelga	Bayawan	Tolong	2	0.89
37. Basilio Bergabera	"	Tolong	1	1.08
38. Dionisio Francisco	"	Tolong	1	1.30
39. Elfbien Rodriguez	"	Tolong	1	0.89
40. Clara Mallosa	Bayawan	Tolong	1	1.55
41. Marialyn Menoza	Manjuyod, Neg.Or.	Bais Ursumco	1	1.23
42. Leonardo Tanjay	"	Bais Ursumco	1	0.71
43. Jose Jay Dencio	Kabankalan	Kabankalan	1	0.70
44. LGEL INC.	Sagay	Sagay	2	2.08
45. HARC	Toboso	San Carlos	2	2.93
46. DAFWARBA	Cabacungan, La Castellana	La Carlota	1	3.12
47. Charmen Calla	Mabinay, Neg.Or.	Bais Ursumco	1	4.00
Sub Total			**94**	**109.46**
Total Private			**448**	**500.03**

2. EXPERIMENTAL FIELD

NAME	DIVISION / SECTION / UNIT	NUMBER of SAMPLE
January, 2016		
1. Solena Tahum	PTCM	36
2. Gina Cahilig	Soils Laboratory	1
3. Juval Velasco	VIPM	1
Sub Total		**38**
February 2016		
1. Juval Velasco	VIPM	3
2. Arlene Matti	Soils Lab	1
Sub Total		**4**

March 2016		
Sub Total		**0**
April 2016		
Sub Total		**0**
May 2016		
Sub Total		**0**
June 2016		
1.Lynnie Aloro	Farm Services	**8**
July 2016		
1. Lynnie Aloro	Farm Services	8
2. Gina Cahilig	Soils Lab	1
Sub Total		**9**
August 2016		
1. Helen Lobaton	Farm Services	5
2. Arlene Matti	Soils Lab/JIRCAS	1
Sub Total		**6**
September 2016		
1.Tess Alejandrino	PTCM	**24**
October 2016		
1.Juval Velasco	VIPM	1
2. Gina Cahilig	Soils Lab	56
Sub Total		**71**
November & December 2016		
1. Sol Tahum	PTCM	111
2. Gina Cahilig	Soils Lab	56
3. T. Alejandrino	PTCM	29
4. Teresita Banas	PTCM	2
Sub Total		**198**
Total Experimental		**344**
GRAND TOTAL SOIL Samples 2016		**792**

B. CANE JUICE SAMPLES

1. PRIVATE PLANTER		
September 2016		9
October 2016		10
Nov. &Dec. 2016		137
Sub Total		**156**
2. EXERIMENTAL FIELD		
January 2016		
1. Rimmon Armones	VIPM- Germplasm collection	**148**
February 2016		
1.R. Armones	VIPM-Germplasm collection	152
2. J.Velasco	VIPM Ecotest	144
3. Dory de los Santos	Farm Services	6
4. Gina Cahilig	Soils Lab	6
Sub Total		**308**
March 2016		
1.Ma. Lourdes Almodiente	VIPM PYT 2011 Series	**28**
April 2016		
1.Ma. Lourdes Almodiente	VIPM-PYT 2011 Series	50
May 2016		
1.Ma. Lourdes Almodiente	VIPM-PYT 2011 Series	74
June 2016		
1.Ma. Lourdes Almodiente	VIPM-PYT Series 2011	50
July 2016		
1.Ma. Lourdes Almodiente	VIPM-PYT 2011 Series	24
August 2016		
1.Gina Cahilig	Soils Lab-Revalidation	28
September 2016		
1.Gina Cahilig	Soils Lab-Revalidation	28
2.Sol Tahum	Post Harvest	24
Sub Total		**52**
October 2016		
1.Gina Cahilig	Soils Lab-Revalidation	56
2.T. Banas	PTCM	24
3. Sol Tahum	PTCM Post Harvest	96
Sub Total		**176**
Nov. & Dec. 2016		
1.Gina Cahilig	Soils Lab-Revalidation	140
2.Juval Velasco	VIPM-2009 Series Ratoon HPCO	48
	Eco test Phil 2009 Series Ratoon Bais	48
3.Sol Tahum	PTCM-Ratoon Performance	15
	Variety of Fert. Lot 18	60
Sub Total		**311**
Total Private, Juice		**156**
Total Experimental, Juice		**1,249**
Grand Total Cane Juice Samples		**1,405**
Total Cane leaves & Stems		**168**
TOTAL Juice& Cane Leaves & Stems		**1,573**
Grand Total Soils & Juice & Leaves 2016		**2,365**

II. SUPPORT FUNCTION

Nine (9) test sites for 2 research projects were laid out on August, 2015 to February, 2016, 7 test sites of which were already harvested and stubble shaved for the 1st ratoon cultivation. Gathered data are being tallied, analyzed and subjected to statistical data interpretation. Field validation for the collaborative study with JIRCAS also started last July 2016 in STARFA, Dulao, Bago City. Data gathering, monitoring, growth survey and water sampling are going on.

A. Project Studies

Test Sites	Date	Project 1 Revalidation	Project 2 N Efficiency	Project3 JIRCAS
Bais City	1/5-8/2016 Feb-Dec.2016	Plant lay-out/ planting/fertilization Care &maintenance	Plant lay-out/ planting/fertilization Care &maintenance	
CPSU, Kabankalan	11/11-12/15 Dec2015-Sept.2016 Nov.11-14,2016	Plant lay-out/ planting/fertilization Care & maintenance Harvesting/data gathering/stubble shaving	Plant lay-out/ planting/fertilization Care & maintenance Harvesting/data gathering/stubble shaving	
Manapla	Sept.28-30,2015 Oct2015-Sept.2016 Oct.20-24,2016	Plant lay-out/ planting/fertilization Care & maintenance Harvesting/data gathering/stubble shaving	Plant lay-out/ planting/fertilization Care & maintenance Harvesting/data gathering/stubble shaving	
STARFA,Dulao, Bago	Feb.22-24,2016 Mar-Dec.2016	Plant lay-out/ planting/fertilization Care & maintenance	Plant lay-out/ planting/fertilization Care & maintenance	
Sagay-Lacson	Aug.18-21,2015 Sept.8-12/2016	Plant lay-out/ planting/fertilization Care & maintenance Harvesting/data gathering/stubble shaving		
Sagay-Sy	Aug.18-21,2015 Sept-Aug.2016 Sept.15-19,2016	Plant lay-out/ planting/fertilization Care & maintenance Harvesting/data gathering /stubble shaving		
Escalante	Sept.10-11,2015 Oct-Sept.2016 Oct.6-9,2016	Plant lay-out/ planting/fertilization Care & maintenance		

		Harvesting/data gathering/stubble shaving		
MACARBEN-La Castellana	Nov.26-27,2015 Dec.-Oct.2016 Nov.23-25,2016	Plant lay-out/ planting/fertilization Care & maintenance Harvesting/data gathering/stubble shaving		
San Carlos	Dec. 9-11,2015 Feb-Sept.2016 Oct.27-29,2016	Plant lay-out/ planting/fertilization Care & maintenance Harvesting/data gathering		
STARFA,Dulao, Bago	July 11,2016 On-going			Plant lay-out/ planting/fertilization Care & maintenance Water sampling Ground parts sampling Growth survey

A. Other Activities

Title of conferences/ training/seminars/ meetings/technology transfer	Inclusive Dates	Venue	Lecturer/ Participant
Resource speaker on the Sugar Refinery Operations & Wkly Refinery Statement	March 29-Apr.4, 2016	Ormoc City	Arlene C.Matti
Resource speaker & facilitator for the Trainor's training of NFCG Batch 3	March 29-31, 2016	Bacolod City	Arlene C.Matti
Attended SUGAREAP discussion on the organization of placement committee for RAT	April 14, 2016	Bacolod City	Laboratory personnel
Conducted lecture on Sugarcane fertilization & soil sampling	April 18, 2016	LGAREC	Arlene C.Matti & G. Cahilig
Attendance to NFCG Trainer's Training for food service	May 4-5, 2016	Bacolod City	Arlene C.Matti
Election of representatives for the Placement Com	May 11, 2016	SRA-Bacolod City	Laboratory personnel
Lecture & field practicum on soil sampling	May 4, 2016	LGAREC	Virgie Celestial
Evaluation of RDE projects by R. Gumera	May 4-5, 2016	LGAREC	Lab personnel
Lecture on sugarcane nutrition & fertilization	May 6, 2016	LGAREC	Arlene C.Matti
Japanese Cooperator (JIRCAS)	June 07,2016	Experimental Field & Laboratory LGAREC	A.C. Matti & G. Cahilig
Soil Sampling (JIRCAS) Experimental Site	June 08, 2016	Experimental Field-LGAREC	G. Cahilig & V. Celestial
Seminar on Change Management	July 12-13, 2016	SRA, Bacolod City	A.C. Matti & G. Cahilig

Lecture on Fertilizer Management	July 19, 2016	IPOBI, Binalbagan	A.C. Matti
Lecture/Practicum on Soil Sampling	July 26,2016	LGAREC	G.D. Cahilig
Lecture on Fertilizer Management	July 26,2016	LGAREC	A.C. Matti
Supervisory Development Course	Aug.29-Sept.6,2016	SRA, Diliman Quezon City	A.C. Matti
Philsutech Convention	Aug.15-20,2016	Cebu City	A.C. Matti & G.Cahilig
OPSI Lecture	Aug.23-25, 2016	LGAREC	A.C. Matti & G.D. Cahilig
RDE Meeting	Sept.1-2, 2016	SRA, Bacolod City	A.C. Matti
ICP Seminar	Sept. 16, 2016,2016	Bacolod City	A.C. Matti & Staff
SIDA 2016 Project Proposal Review	Sept. 20-21,2016	SRA,Diliman	A.C. Matti & G.D. Cahilig
In-House Review	Sept. 22-23,2016	LAREC,Pampanga	A.C. Matti & G.D. Cahilig
Technical Writing seminar	Sept.26-28,2016	LAREC,Pampanga	A.C. Matti & G.D. Cahilig
Exposure trip to UPLB & IRRI	Sept.29, 2016	UPLB	A.C. Matti & G.D. Cahilig
RDE Meeting	Sept.1-2, 2016	SRA, Bacolod City	A.C. Matti
OPSI lecture	Oct.4-6,2016	LGAREC	A.C. Matti
Regional Consultative workshop on Research & Technology generation for local govt.	Oct.17-18,2016	Bacolod City	V.Celestial
2017-2018 Budget Review	Oct.17,2016	SRA,Bacolod City	A.C. Matti & G.D. Cahilig
Attended Board meeting of Lopez MDDC	Nov. 9,2016	Lopez Sugarmill	A.C. Matti
FPA Accreditation training for Researchers	Nov.15-19,2016	Davao City	A.C.Matti & G.Cahilig
Attended Women's Month	Nov. 28,2016	SRA,Bacolod City	Lab personnel
Attended ICP seminar	Dec.2,2016	Bacolod City	Technical staff

AGRO-BASED LABORATORY UNIT

The Agro-Based Materials Laboratory Division delivered high quality and timely laboratory services to stakeholders of Negros and Panay areas by:

a) *Conducting chemical analyses of soil*
b) Recommending fertilizer dosage based on the result of analyses
c) Conducting proximate analyses of various agro-based materials (lime, commercial and organic fertilizers, feeds, plant tissue, etc.)
d) Extending technical assistance to planters and formulators on problems related to result interpretation, fertilization scheme, etc.

The Agro-Based Materials Laboratory Division addresses environmental concerns of the sugar industry by extending laboratory analyses of water and other wastewater effluents, as a reference laboratory for the sugar industry, mandated in SRA Special Order No. 137, Series 2003. The laboratory analyzes wastewater for Biochemical Oxygen Demand (BOD), Oil and Grease, Total Suspended Solids (TSS), Total Dissolved Solids

(TDS), Dissolved Oxygen and pH. The laboratory also analyzes emission particulates from sugar mills.

The Laboratory maintains cultures of beneficial microorganisms in agriculture and formulates suitable carriers for these microorganisms. Beneficial microorganisms such as *Trichoderma, Acetobacter, Azotobacter, Azospirillum*, and indigenous microorganisms are being made available for sale to sugarcane planters at very affordable prices.

The Laboratory received and analyzed a total of **2131** samples for the year 2016. There were **1871** soil samples which were submitted by **463** planters.

The ABML analyzed a total of **675** special samples (fertilizers, organic materials, plant tissues, lime, dolomite, rock phosphate, soil conditioners, manures, and other agro-based materials) submitted by **123** clients. A total of **1000** determinations for N, P, K, Ca, Mg, CaO, MgO, OM, pH, and CaCO3 were made. Trace elements (copper, zinc, manganese and iron) analyses were conducted using the Atomic Absorption Spectrophotometer.

The laboratory analyzed **90** environmental samples for air particulates from sugar mills.

Aside from its laboratory analytical services, the Agro-Based Laboratory conducted field experiments jointly with the Soils Laboratory (La Granja) and the Production Technology and Crop Management Units. The title of the projects are:

1. *"Revalidation of SRA's Fertilizer Recommendation"* - 9 test sites (7 sites harvested with all pertinent data gathered)
2. *"Effect Of Different Periods Of Nitrogen Fertilizer Application On Growth And Yield Of Sugarcane"* - 5 test sites (3 sites harvested with all pertinent data gathered)

The total analyses fees collected for both soil and special samples and the sale of *Trichoderma, Azotobacter*, etc., amounted to PhP526,950

Soil Analysis	136,600
Special Analysis	350,250
Trichoderma/Azotobacter, etc. Sales	40,100
Total	**P 526,950**

The following cultures of beneficial microorganisms were prepared during the year: *Liquid Culture of Trichoderma, Azotobacter, etc.*- ***545 liters***

The Agro-Based Laboratory maintains the following pure cultures of beneficial microorganisms for agriculture: *Acetobacter, Azotobacter, Azospirillum, Trichoderma* and indigenous microorganisms. These are made available to planters and other clients for sale at very affordable prices.

The ABML Staff attended several seminars/workshops/conferences for the year 2016 (please see attached sheet).

Four (4) lectures were conducted during the year (please see attached sheet). The topic for these lectures is "The Use of Beneficial Microorganisms in Agriculture and Organic Farming".

The laboratory responded to inquiries and rendered technical assistance to planters, clients, etc. regarding soil analysis, fertilizer recommendation, role and application of beneficial microorganisms, etc. The laboratory also accommodated seven students for on-the-job training.

SUGAR REFERENCE UNIT

A. Highlight of Accomplishment

The Sugar Reference Unit of the Research Development and Extension Department based in Bacolod City, functions as reference and service laboratory of the sugar industry in the Visayas. The sugar laboratory rendered the following technical services to sugar millers, planters, sugar traders, brokers, researchers and other institutions.

	No. Of Samples
Bi-weekly Composite Raw Sugar Analyses From Sugar Mills	
In The Visayas	483
Refined Sugar Analyses	0
Raw Sugar Analyses From Sugar Traders	92
Muscovado Sugar Analyses	7
Sugar Cane Juice Analyses	57
Molasses Analyses From Sugar Mills	37
Molasses Analyses From Sugar Traders	218
Total Number of Samples Received and Analyzed	894

The above services were undertaken pursuant to our objectives to encourage good manufacturing practices, to ensure competitiveness and acceptability of our sugars in the domestic and export market; and to determine compliance of all sugar factories to Memorandum Circular No. 2 Series of 2011 on the new sets of standard for Raw Cane Sugar (PNS/BAFPS 81:2010) and White Sugar (PNS/BAFPS 82:2010) respectively.

Services are a crop – year ongoing job with emphasis on a bi-weekly monitoring of composite samples of sugar, but with the onset opening of crop year 2015-2016 and the requirement of BIR Revenue Regulations No. 8-2015 and SRA Memorandum order No. 6 Series of 2015, the submission of raw sugar composite samples of mills will be on a weekly basis and quarterly for samples of molasses from mills in the Visayas. For the year 2015 there were only two (2) vessels that hauled Phil. Sugar for the US market. Molasses from traders for distilleries within the country was observed to be abundant as likewise raw sugar for refineries too.

B. Technical Services Rendered

Responded to inquiries and request of planters, traders, millers, for sugar quality tests and analyses of their sugar and sugar by-product samples.

Clients served for the year for sugar and molasses analyses were seventeen (17) sugar mills, thirteen (13) from sugar traders and thirty (30) from molasses mills and molasses traders.

Revenues generated from these technical services for sugar and molasses traders and millers for the **Crop Year 2016**, amounted to **Eight hundred fifty three Thousand Five Hundred Pesos (PhP853,500.00).**

As for Analyses fees from the Bi-weekly / Weekly composite samples of the sugar mills, the fees are incorporated in the milling permit fee collected at the start of the milling crop year but quantified for assessment purposes based on the current official fees/parameter of SRA and is in the amount of **One Million Six Hundred Sixteen Thousand Three Hundred Fifty Pesos (PhP1,616,350.00).**

Rendered assistance to students from the Technological University of the Philippines (9)on the job training on sugar and sugar by-products analyses. One (1) From UP-Visayas, BS Chemistry graduate, Licensed Chemist served as trainee.

Rendered assistance to Raw Brown Sugar Milling Company on their Muscovado and Liquid sugar for Sucrose and Reducing Sugar Analysis.

Rendered assistance to ALDIZ INC. on their product (AVATAR) experiment on sugarcane production.

C. Conferences, Seminars & Trainings Attended

For this crop year 2016, the sugar laboratory personnel have attended seminars for enhancement and enrichment of technical skills and knowledge for the following:

Analytical Quality Assurance: Laboratory Equipment and Glasswares: and Update in Analytical Laboratory Instrumentation
September 16, 2016

Seminar/Workshop for the Conduct of Molasses Sounding, Sampling and its Laboratory Analysis
October 17, 2016

Certified Reference Materials and Proficiency Testing in Analytical and Microbiology Laboratories
December 02, 2016

PTCM SECTION ACTIVITIES

Teresita B. Bañas, Solena Tahum and Ma. Theresa Alejandrino posed for a souvenir picture after the Technical writing workshop at LAREC, Pampanga.

Teresita B. Bañas and other SRA employees with Board Member Serafica during the PHILSUTECH Convention in Cebu City

Teresita B. Bañas attended workshop on Fertilizer and Pest Researchers Accreditation in Bajada, Davao City

Teresita B. Bañas acted as evaluator of snap beans varieties at UPLB, La Granja Station

Teresita B. Bañas during the layout of one of the projects of PTCM section.

Teresita B. Bañas and other SRA employees during the workshop on Change Management at SRA, Bacolod

Solena Tahum , Teresita B. Bañas and other SRA LGAREC technical staff joined the field tour at SRA, LAREC, Pampanga

Teresita B. Bañas attended the graduation of OPSI batch 138

Teresita B. Bañas and Ma. Theresa D. Alejandrino listening to the discussion of Japanese researcher on nitrogen leaching in sugarcane field.

Teresita B. Bañas, Solena Tahum and Enrique Eugenio during the despidida party of Mr. Romeo Ledesma (Science Aide) who retired at the age of 65 last July 2016.

VIPM SECTION ACTIVITIES

Lay out of Ecologic Test, Phil 2009 Series in Hda. San Antonio, San Carlos City

Lay out and planting of Ecologic Test, Phil 2010 Series varieties in Hda. De Fuego, La Carlota City

Planting of Ecologic Test, Phil 2009 Series varieties in Hda. San Antonio, San Carlos City

Lay out and planting of Ecologic Test, Phil 2010 Series varieties in Brgy. Curva, Ormoc City

Data gathering on number of stools and tillers

Data gathering/pests and diseases monitoring

Irwin Yongco with harvested cane stalks of Phil 2009 Series variety in Hda. Guza, Talisay City

Measuring length of sample stalks

Field visit on referred problem in Victorias Mill District

Rosenie Entima (2nd from right) attending the 63rd PHILSUTECH Annual Convention, August 15-20, 2016, Cebu City

Attending In-house Review in LAREC, Pampanga, September 22-23, 2016

Seminar on Scientific Writing, LAREC, Pampanga, September 26-28, 2016 with Dr. Gwynetha Pusta as resource person

FARM SERVICES DIVISION

HIGHLIGHTS:

The main role of Farm Services (FS) is to provide support and assistance to all R&D projects of the research units: Production Technology and Crop Management (PTCM), Variety Improvement and Pest Management (VIPM) and Laboratory Services. These services includes:

- Area allocation
- Land preparation (Plowing/Harrowing/Furrowing)
- Irrigation and drainage (main canals)
- Labor assistance during harvesting (cutting and loading)
- Take charge of transporting harvested canes to the mill
- Provides planting materials (cutback/top points) for research as well as for the nursery farms of the different MDDC's and SIDA/DAR Block Farms through the Extension Department
- Also tasked to maintain and improve the HYV propagation, demo, and commercial fields
- Facilitate procurement of mud press and lime

The HYV propagation and commercial fields serve as source of planting materials (cutback or top points) for research purposes, for sale to planters and for distribution to different MDDC nurseries, ARB's and OPSI participants and SIDA Block Farms. For CY 2015-16, around 32.22 hectares on the average were utilized and planted to fifteen new HYV's.

This crop year 2015-16, the total canepoints produced was 451.06 lacsas.

- 10.25 were planted/replanted at the propagation/commercial fields,
- 16.46 for station planting and replanting
- 6 lacsas were distributed to different MDDC nursery.
- 1.6 lacsas for OPSI participants.
- 8 lacsas for Block Farms
- 0.36 for Nurseries and Demo Farms
- 15.24 for Research
- 393.15 were sold to 91 planters.

A. LGAREC HYV Propagation/Commercial Fields

TABLE 1. HYV'S AREA ALLOCATION.

VARIETY	AREA
Phil 2007	1.05
Phil 2006-2289	1.77
Phil 2006-1899	4.41
Phil 2006 series	1.60
Phil 2005-0645	3.84
Phil 2004-1011	6.71
Phil 2004-0827	2.50
Phil 2003-1389	0.79
Phil 2000-2569	1.06
Phil 2000-0791	4.41
Phil 2000-1419	0.09
Phil 2000-2155	0.09
Phil 99-1793	3.35
Phil 98-0255	0.16
Phil 97-3933	0.21
Phil 2008-1763	0.09
Phil 8013	0.09
TOTAL	**32.22**

TABLE 2. HYV'S CANE POINTS DISTRIBUTION TO VARIOUS STAKEHOLDERS PER MONTH.

DATE	NAME OF PLANTER	VARIETY	NO. OF LACSAS	ADDRESS	REMARKS
JANUARY					
8	Oscar Yusay	Phil 2004-1011	4.00	Hda. Tagum, Isabela, Neg. Occ.	Sold
15	Jacob Montoya	Phil 2004-1011	5.00	Tapi, Kabankalan, Neg. Occ.	Sold
19	Willie Bautista	Phil 2004-1011	4.00	Hda. NIE-Hawaiian, Silay City	Sold
	Solena Tahum	Phil 2005-0645	2.20	SRA-LGAREC Field (Variety x Fertilizer Study)	Research
27	Cesar Talde	Phil 2004-0827	5.00	Hda. Calumpang, Mabini, Valladolid, NO	Sold
		Sub-Total	**20.20**		

DATE	NAME OF PLANTER	VARIETY	NO. OF LACSAS	LOCATION	REMARKS
FEBRUARY					
3	Ma. Lourdes Dormido				
	(Fert. Rec. Valid. Trial)	Phil 99-1793	3.00	Bais, Neg. Or.	Research
9	Ryan Sarimong	Phil 2004-1011	3.00	Isabela,Neg. Occ.	Sold (Student)
15	Domingo Monte	Phil 2004-1011	5.00	Brgy. Romerang Isabela,Neg. Occ.	Sold
16	SRA	Phil 99-1793	2.35	SRA-LGAREC Field	Station Planting/
		Phil 2000-0791	1.46		Replanting
1	Oscar Yusay	Phil 2004-1011	1.00	Isabela,Neg. Occ.	Sold
17	Ma. Lourdes Dormido				Research
	(Fert. Rec. Valid. Trial)	Phil 99-1793	0.10	San Carlos City, Neg. Occ.	(Replanting)
19	Hermie Española	Phil 2004-1011	0.20	Hda. Pagulayan, Bago City	Sold
23	Ma. Lourdes Dormido				
	(Fert. Rec. Valid. Trial)	Phil 2004-1011	3.00	Dulao, Bago City	Research
29	Ernesto Tahum	Phil 2004-1011	1.00	La Castellana, Neg. Occ.	Sold
		Sub-Total	**20.11**		

DATE	NAME OF PLANTER	VARIETY	NO. OF LACSAS	LOCATION	REMARKS
MARCH					
3	Ma. Lourdes Dormido				Research
	(Fert. Rec. Val. Trial)	Phil 97-3933	0.25	CPSU, Kabankalan, Neg. Occ.	(Replanting)
	Ernesto Tahum	Phil 2004-1011	0.50	La Castellana, Neg. Occ.	Sold
7	Alberto del Monte	Phil 2000-2569	2.00	Brgy. Camba-og, Hinigaran, Neg. Occ.	Sold
14	Rommel Flores	Phil 2000-2569	5.00	Ma-ao, Bago City	Sold
15	Ma. Lourdes Dormido				Research
	(Fert. Rec. Valid. Trial)	Phil 97-3933	1.00	Bais, Negros Oriental	(Replanting)
16	Cristina Corro	Phil 2004-1011	0.05	Isabela, Neg. Occ.	Nursery
		Phil 2004-0827	0.05		
		Phil 2000-0791	0.05		
		Phil 99-1793	0.05		
16	Paulino Oñal	Phil 2006-1899	1.00	Ormoc Mill District	MDDC
		Phil 2006-2289	1.00		(Adaptability
		Phil 2004-1011	1.00		Trial)
		Phil 2004-0827	1.00		
		Phil 2000-0791	1.00		
		Phil 99-1793	1.00		
		Sub-Total	**14.95**		

DATE	NAME OF PLANTER	VARIETY	NO. OF LACSAS	LOCATION	REMARKS
APRIL					
1	Romelo Cabalonga	Phil 2004-1011	2.50	Brgy. Cambaros, Pontevedra, NO	Sold
6	Ronel Lirazan	Phil 2000-0791	2.00	Hda. Colansan, Isabela, NO	Sold
	NAFPWA	Phil 2000-0791	4.00	Brgy. Ilijan, Bago City, NO	Block Farm
		Phil 2004-1011	4.00		
8	Jad Lacson	Phil 2000-2569	2.10	Hda. Pukatod, Moises Padilla, NO	Sold

12	Ronel Lirazan	Phil 2000-0791	3.00	Hda. Colansan, Isabela, NO	Sold
19	Theresa Lo	Phil 2000-0791	5.00	Pandan, La Castellana, NO	Sold
20	Ronel Lirazan	Phil 2000-0791	2.00	Hda. Colansan, Isabela, NO	Sold
22	Luz Felicidad Jalandoon	Phil 99-1793	0.70	Ahoy, Iloilo	Sold
		Phil 2000-0791	0.30		Sold
29	Luz Felicidad Jalandoon	Phil 2000-0791	0.90	La Carlota City	Sold
		Sub-Total	**26.50**		

DATE	NAME OF PLANTER	VARIETY	NO. OF LACSAS	LOCATION	REMARKS
MAY					
5	Deogracias Tianchon	Phil 2000-2569	0.02	Cuartero, Capiz	Nursery
		Phil 99-1793	0.02		
		Phil 2004-1011	0.02		
10	Edmyr Desabelle	Phil 2004-1011	5.00	Minapasok, Calatrava, Neg. Occ.	Sold
		Phil 2004-0827	5.00		Sold
16	Juan Miguel Jalandoni	Phil 2004-1011	6.00	Hda. Angelita, La Castellana, Neg. Occ.	Sold
19	Ian Paul Perez	Phil 2004-0827	4.00	Ginete Farm, Brgy. Balabag, La Carlota City	Sold
	Rona Eupalan	Phil 2004-1011	5.00	Pontevedra, Neg. Occ.	Sold
23	Favio Estallo	Phil 2004-1011	4.00	Brgy. Mabini, Pontevedra, Neg. Occ.	Sold
	Arturo Tuazon	Phil 2004-1011	2.50	Brgy. Mabini, Pontevedra, Neg. Occ.	Sold
25	Virgilio Gasacao	Phil 2004-1011	6.00	Brgy. Pinaguinpinan, Kabankalan, Neg. Occ.	Sold
26	Ronel Lirazan	Phil 2004-1011	3.00	Hda. Colansan, Isabela, Neg. Occ.	Sold
		Phil 2006-1899	0.10		Nursery
	Romeo Cabalonga	Phil 2004-1011	2.00	Brgy. Campbaros, Pontevedra, Neg. Occ.	Sold

	Rommel Flores	Phil 2004-1011	5.00	Ma-ao, Bago City	Sold
30	Noel Cocjin	Phil 2004-1011	6.00	Dueñas, Iloilo	Sold
31	Antonio Sumadhay	Phil 2004-1011	4.00	La Castellana, NO	Sold
	Warberto Amar	Phil 2004-1011	5.00	Hda. Esperanza, Camisana, LaCarlota City	Sold
	Rosario Sola	Phil 2004-1011	7.00	Brgy. Prosperidad, San Carlos City	Sold
		Sub-Total	69.66		

DATE	NAME OF PLANTER	VARIETY	NO. OF LACSAS	LOCATION	REMARKS
JUNE					
2	Brian Bruce Bravo	Phil 2004-1011	0.20	Manggapsang, L Castellana, NO	Sold
6	Fernando Arguelles	Phil 2004-1011	5.00	Brgy. Caliban, Murcia, NO	Sold
10	Ian Paul Prez	Phil 2003-1389	1.00	Ginete Farm, La Carlota City	Sold
		Phil 2004-0827	1.69		Sold
		Phil 2004-1011	1.31		Sold
14	Marissa Adla-on	Phil 2004-1011	5.00	San Jose Villa, Dancalan, Ilog, NO	Sold
17	Ruben David	Phil 2004-1011	5.00	Brgy. Camandag, La Castellana, NO	Sold
20	Arturo Tuazon	Phil 2004-1011	0.40	Brgy. Mabini, Pontevedra, Neg. Occ.	Sold
27	Joelo Liboon	Phil 2004-1011	3.00	Moises Padilla, NO	Sold
	Jerry Libawas	Phil 2004-1011	0.50	Brgy. Mabini, Pontevedra, Neg. Occ.	Sold
30	Marlenda Gabutero	Phil 2004-1011	6.00	Bayawan, Neg. Or.	Sold
		Phil 2004-0827	0.50		Sold
		Phil 2000-0791	5.50		Sold
	Jerry Libawas	Phil 2004-1011	0.50	Brgy. Mabini, Pontevedra, Neg. Occ.	Sold
	Fulbert Rojo	Phil 2000-0791	1.00	Brgy. Nagasi, La Carlota City, NO	Sold
		Sub-Total	36.60		

DATE	NAME OF PLANTER	VARIETY	NO. OF LACSAS	LOCATION	REMARKS
JULY					
5	JIRCAS	Phil 99-1793	0.40	Sagay, Neg. Occ.	Research
11	Jerry Regacho	Phil 99-1793	3.00	Hda. Alacapa, Haguuimit, La Carlota City	Sold
	JIRCAS	Phil 99-1793	0.70	Dulao, Bago City, Neg. Occ.	Research
12	Johanna Lacson	Phil 2004-1011	5.00	Hda. Pukatod, La Castellana, Neg. Occ.	Sold
18	Ronel Lirazan	Phil 2000-0791	4.00	Hda. Colansan, Isabela, Neg. Occ.	Sold
	Arnel Estiamba	Phil 99-1793	5.00	Pontevedra, Neg. Occ.	Sold
19	Gemma Pandagani	Phil 2004-1011	5.00	Hda. Himaya, Neg. Occ	Sold
21	Evenyl Gordoncillo	Phil 99-1793	5.00	Mabinay, Neg. Or.	Sold
22	Ebenezer Yanson	Phil 2004-1011	2.00	Moises Padilla, Neg. Occ.	Sold
	Geward Glenn Estocado	Phil 2004-1011	3.00	Hinigaran, Neg. Occ.	Sold
		Phil 99-1793	2.00		Sold
	Jerry Libawas	Phil 2004-1011	0.30	Brgy. Mabini, Pontevedra, Neg. Occ.	Sold
25	Egbert Sansioco	Phil 2004-1011	4.00	Cauayan, Neg. Occ.	Sold
	Margarito Espada	Phil 99-1793	4.00	Brgy.Antipolo, Pontevedra, Neg. Occ.	Sold
27	Ebenezer Yanson	Phil 2004-1011	2.50	La Carlota City, Neg. Occ.	Sold
28	John Jong	Phil 2004-1011	5.00	Hinigaran, Neg. Occ.	Sold
28	SRA-OPSI	Phil 99-1793	1.60	SRA-LGAREC	OPSI
28	Randy Eupalan	Phil 99-1793	5.00	Pontevedra, Negros Occidental	Sold
29	SRA-(FS)	Phil 2006-1899	4.40	SRA-LGAREC Field	SRA-Planting
TOTAL			**61.90**		

DATE	NAME OF PLANTER	VARIETY	NO. OF LACSAS	LOCATION	REMARKS
August					
2	Natividad Estandante	Phil 97-3933	1.34	Brgy. Ayaman, Tacas, Cabanatuan, Iloilo	Sold
		Phil 99-1793	0.36		Sold
2	Amy Montinola	Phil 2004-1011	0.15	Had. Alegria, La Carlota City, Negros Occidental	Sold
5	Egbert Sansioco	Phil 99-1793	2.50	Cauayan, Negros Occidental	Sold
5	Cecil Ambait	Phil 99-1793	0.10	Bacolod City	Sold
8	Jennifer Ferrer	Phil 2004-1011	5.00	Brgy. Manghanoy, La Castellana, Negros Occidental	Sold
		Phil 2000-0791	2.00		Sold
8	Oscar Calog	Phil 99-1793	5.00	Vallehermoso, San Carlos City, Negros Occidental	Sold
22	Raul Reyes	Phil 99-1793	5.00	Kabankalan, La Castellana, Negros Occidental	Sold
		Phil 2000-0791	5.00		Sold
22	Roger Jaud	Phil 2004-1011	5.00	Had. Chambery, Cadiz City, Negros Occidental	Sold
25	OPSI	Phil 2000-0791	1.60	SRA LGAREC	Sold
26	Joemarie Pollos	Phil 2004-0827	5.00	Had. Bacsay, La Castellana, Negros Occidental	Sold
		Phil 2000-0791	5.00		Sold
30	Ernesto Qui-ay	Phil 2004-0827	5.00	Had. Viscaya, , Brgy. Gomez, Pontevedra, Negros Occidental	Sold
30	Elizabeth Gotones	Phil 2000-0791	5.00	Mabinay, Negros Oriental	Sold
31	Karen Qui-ay	Phil 2004-0827	5.00	Brgy. Gomez, Pontevedra, Negros Occidental	Sold
31	SRA (FS)	Phil 2006-1899	6.40	SRA (FS)	SRA Planting and Replanting
		Phil 99-1793	0.80		
		Phil 2004-1011	0.70		
TOTAL			**65.95**		

DATE	NAME OF PLANTER	VARIETY	LACSA	ADDRESS	REMARKS
September					
1	Ernesto Qui-ay	Phil 2004-1011	2.00	Had. Viscaya, Gomez, Pontevedra, Negros Occidental	Sold
		Phil 2004-0827	3.00		Sold
13	Jovito Blanaque	Phil 99-1793	3.00	Talaptap, La Castellana, Negros Occidental	Sold
14	Ronnie Era	Phil 2004-0827	3.00	Brgy. Burgos, Pontevedra	Sold
19	Michael Suarez	Phil 2000-0791	5.00	Silay City, Negros Occidental	Sold
19	Jerry Gustilo	Phil 2000-0791	45.00	Talisay, (FFHC MD)	Sold
20	Research	Phil 2006-1899	0.12	SRA-LGAREC	Research
		Phil 2006-2289	0.12		
TOTAL			**61.24**		

DATE	NAME OF PLANTER	VARIETY	NO. OF LACSAS	LOCATION	REMARKS
October					
6	Narciso Casipong	Phil 2000-0791	0.25	Brgy. Dawis, Bayawan City, Negros Oriental	Sold
6	Edgar Tenefracia	Phil 99-1793	0.50	Brgy. Maninihon, Bayawan City, Negros Oriental	Sold
7	Glenda Sol Cordero	Phil 2000-0791	0.25	Brgy. Pinggot, Cauayan, Negros Occidental	Sold
7	Farm Services	Phil 2004-0827	1.10	SRA-LGAREC	Farm Services
11	Ramon Tambiga	Phil 2004-0827	5.00	BUCFWA Coop, Vallehermoso, Negros Oriental	Sold
		Phil 2000-0791	5.00	BUCFWA Coop, Vallehermoso, Negros Oriental	Sold
14	Farm Services	Phil 2006-2289	2.35	SRA-LGAREC	Farm Services

14	Farm Services	Phil 2006-1899	3.25	SRA-LGAREC	Farm Services
14	Roger Jaud	Phil 2000-0791	5.00	Had. Alegria, La Carlota City, Negros Occidental	Sold
TOTAL			**22.70**		
DATE	**NAME OF PLANTER**	**VARIETY**	**NO. OF LACSAS**	**LOCATION**	**REMARKS**
November					
21	Ely Palma	Phil 2004-1011	4.00	Brgy. Tapi, Kabankalan City, Negros Occidental	Sold
25	Luis Sumalpong	Phil 2004-1011	5.00	Brgy. Dawis, Bayawan City, Negros Oriental	Sold
25	Narciso Casipong	Phil 2004-1011	5.00	Brgy. Dawis, Bayawan City, Negros Oriental	Sold
10	Farm Services	Phil 99-1793	3.55	SRA-LGAREC	Farm Services
TOTAL			**17.55**		

DATE	**NAME OF PLANTER**	**VARIETY**	**NO. OF LACSAS**	**LOCATION**	**REMARKS**
December					
1	Research (PTCM)	Phil 2007-0563	0.12	SRA-LGAREC	Research
		Phil 2007-0359	0.12	SRA-LGAREC	Research
		Phil 2006-2289	0.12	SRA-LGAREC	Research
		Phil 2006-1899	0.12	SRA-LGAREC	Research
2	Cyril Vera	Phil 2004-1011	5.00	Had.Agustina, La Castellana, Negros Occidental	Sold
7	Ed Javellana	Phil 2004-1011	4.00	Binalbagan, Negros Occidental	Sold
8	Aldin John Diotay	Phil 99-1793	5.00	Biak na Bato, La Castellana, Negros Occidental	Sold
12	Fernando Argelles	Phil 99-1793	5.00	Murcia, Negros Occidental	Sold
12	Research (PTCM)	Phil 2004-1011	1.00	SRA-LGAREC	Research
12	Ed Javellana	Phil 2004-1011	5.00	Binalbagan, Negros Occidental	Sold

20	Abraham de Dios	Phil 2003-1389	5.00	Binalbagan, Negros Occidental	Sold
21	Farm Services	Phil 99-1793	3.22	SRA-LGAREC	Research
TOTAL			**33.70**		
GRANDTOTAL			**451.06**		

TABLE 3. NUMBER OF CANEPOINTS DISTRIBUTED PER MONTH

MONTH	LACSA
January	20.20
February	20.11
March	14.95
April	26.50
May	69.66
June	36.60
July	61.90
August	65.95
September	61.94
October	22.70
November	17.55
December	33.70
TOTAL	**451.06**

TABLE 4. SUMMARY OF RECIPIENTS.

RECIPIENTS	NUMBER	LACSA
Planters	91	393.15
MDDC/AC/Others		
OPSI	1	1.60
MDDC	1	6.00
Block Farm	1	8.00
Nursery/Demo Farm	2	0.36
Research	13	15.24
Farm Services	4	10.25
Station planting/replanting	9	16.46
TOTAL	**122**	**451.06**

TABLE 5. PLANTING MATERIALS (TOP POINTS/CUTBACK) FROM HYV PROPAGATION, DEMO, COMMERCIAL FIELDS AND RESEARCH EXPERIMENTS SOLD/DISTRIBUTED TO SUGARCANE FARMERS.

PHIL 2004-1011

NAME OF PLANTER	VARIETY	NO. OF LACSAS	ADDRESS	REMARKS
Oscar Yusay	Phil 2004-1011	4.00	Hda. Tagum, Isabela, Neg. Occ.	Sold
Jacob Montoya	Phil 2004-1011	5.00	Tapi, Kabankalan, Neg. Occ.	Sold
Willie Bautista	Phil 2004-1011	4.00	Hda. NIE-Hawaiian, Silay City	Sold
Ryan Sarimong	Phil 2004-1011	3.00	Isabela,Neg. Occ.	Sold (Student)
Domingo Monte	Phil 2004-1011	5.00	Brgy. Romerang Isabela,Neg. Occ.	Sold
Oscar Yusay	Phil 2004-1011	1.00	Isabela,Neg. Occ.	Sold
Hermie Española	Phil 2004-1011	0.20	Hda. Pagulayan, Bago City	Sold
(Fert. Rec. Valid. Trial)	Phil 2004-1011	3.00	Dulao, Bago City	Research
Ernesto Tahum	Phil 2004-1011	1.00	La Castellana, Neg. Occ.	Sold
Ernesto Tahum	Phil 2004-1011	0.50	La Castellana, Neg. Occ.	Sold
Cristina Corro	Phil 2004-1011	0.05	Isabela, Neg. Occ.	Nursery
	Phil 2004-1011	1.00		Trial)
	Phil 2004-0827	1.00		
	Phil 2000-0791	1.00		
Romelo Cabalonga	Phil 2004-1011	2.50	Brgy. Cambaros, Pontevedra, NO	Sold
Deogracias Tianchon	Phil 2004-1011	0.02	Cuartero, Capiz	
Edmyr Desabelle	Phil 2004-1011	5.00	Minapasok, Calatrava, Neg. Occ.	Sold
Juan Miguel Jalandoni	Phil 2004-1011	6.00	Hda. Angelita, La Castellana, Neg. Occ.	Sold
Rona Eupalan	Phil 2004-1011	5.00	Pontevedra, Neg. Occ.	Sold
Favio Estallo	Phil 2004-1011	4.00	Brgy. Mabini, Pontevedra, Neg. Occ.	Sold
Arturo Tuazon	Phil 2004-1011	2.50	Brgy. Mabini, Pontevedra, Neg. Occ.	Sold
Virgilio Gasacao	Phil 2004-1011	6.00	Brgy. Pinaguinpinan, Kabankalan, Neg. Occ.	Sold
Ronel Lirazan	Phil 2004-1011	3.00	Hda. Colansan, Isabela, Neg. Occ.	Sold
Romeo Cabalonga	Phil 2004-1011	2.00	Brgy. Campbaros, Pontevedra, Neg. Occ.	Sold

Rommel Flores	Phil 2004-1011	5.00	Ma-ao, Bago City	Sold
Noel Cocjin	Phil 2004-1011	6.00	Dueñas, Iloilo	Sold
Antonio Sumadhay	Phil 2004-1011	4.00	La Castellana, NO	Sold
Warberto Amar	Phil 2004-1011	5.00	Hda. Esperanza, Camisana, LaCarlota City	Sold
Rosario Sola	Phil 2004-1011	7.00	Brgy. Prosperidad, San Carlos City	Sold
Brian Bruce Bravo	Phil 2004-1011	0.20	Manggapsang, L Castellana, NO	Sold
Fernando Arguelles	Phil 2004-1011	5.00	Brgy. Caliban, Murcia, NO	Sold
	Phil 2004-1011	1.31		Sold
Marissa Adla-on	Phil 2004-1011	5.00	San Jose Villa, Dancalan, Ilog, NO	Sold
Ruben David	Phil 2004-1011	5.00	Brgy. Camandag, La Castellana, NO	Sold
Arturo Tuazon	Phil 2004-1011	0.40	Brgy. Mabini, Pontevedra, Neg. Occ.	Sold
Joelo Liboon	Phil 2004-1011	3.00	Moises Padilla, NO	Sold
Jerry Libawas	Phil 2004-1011	0.50	Brgy. Mabini, Pontevedra, Neg. Occ.	Sold
Marlenda Gabutero	Phil 2004-1011	6.00	Bayawan, Neg. Or.	Sold
Jerry Libawas	Phil 2004-1011	0.50	Brgy. Mabini, Pontevedra, Neg. Occ.	Sold
Johanna Lacson	Phil 2004-1011	5.00	Hda. Pukatod, La Castellana, Neg. Occ.	Sold
Ronel Lirazan	Phil 2000-0791	4.00	Hda. Colansan, Isabela, Neg. Occ.	Sold
Gemma Pandagani	Phil 2004-1011	5.00	Hda. Himaya, Neg. Occ	Sold
Ebenezer Yanson	Phil 2004-1011	2.00	Moises Padilla, Neg. Occ.	Sold
Geward Glenn Estocado	Phil 2004-1011	3.00	Hinigaran, Neg. Occ.	Sold
Jerry Libawas	Phil 2004-1011	0.30	Brgy. Mabini, Pontevedra, Neg. Occ.	Sold
Egbert Sansioco	Phil 2004-1011	4.00	Cauayan, Neg. Occ.	Sold
Ebenezer Yanson	Phil 2004-1011	2.50	La Carlota City, Neg. Occ.	Sold
John Jong	Phil 2004-1011	5.00	Hinigaran, Neg. Occ.	Sold
Amy Montinola	Phil 2004-1011	0.15	Had. Alegria, La Carlota City, Negros Occidental	Sold
Jennifer Ferrer	Phil 2004-1011	5.00	Brgy. Manghanoy, La Castellana, Negros Occidental	Sold
Roger Jaud	Phil 2004-1011	5.00	Had. Chambery, Cadiz City, Negros Occidental	Sold

SRA (FS)	Phil 2004-1011	0.70	SRA	
Ernesto Qui-ay	Phil 2004-1011	2.00	Had. Viscaya, Gomez, Pontevedra, Negros Occidental	Sold
Ely Palma	Phil 2004-1011	4.00	Brgy. Tapi, Kabankalan City, Negros Occidental	Sold
Luis Sumalpong	Phil 2004-1011	5.00	Brgy. Dawis, Bayawan City, Negros Oriental	Sold
Narciso Casipong	Phil 2004-1011	5.00	Brgy. Dawis, Bayawan City, Negros Oriental	Sold
Cyril Vera	Phil 2004-1011	5.00	Had.Agustina, La Castellana, Negros Occidental	Sold
Ed Javellana	Phil 2004-1011	4.00	Binalbagan, Negros Occidental	Sold
Research (PTCM)	Phil 2004-1011	1.00	SRA-LGAREC	Research
Ed Javellana	Phil 2004-1011	5.00	Binalbagan, Negros Occidental	Sold
		192.33		

PHIL 2005-0645

NAME OF PLANTER	VARIETY	NO. OF LACSAS	ADDRESS	REMARKS
Solena Tahum	Phil 2005-0645	2.20	SRA-LGAREC Field (Variety x Fertilizer Study)	Research

PHIL 2004-0827

NAME OF PLANTER	VARIETY	NO. OF LACSAS	ADDRESS	REMARKS
Cesar Talde	Phil 2004-0827	5.00	Hda. Calumpang, Mabini, Valladolid, NO	Sold
Cristina Corro	Phil 2004-0827	0.05	Isabela, Negros Occidental	
	Phil 2004-0827	1.00		
Edmyr Desabelle	Phil 2004-0827	5.00		Sold
Ian Paul Perez	Phil 2004-0827	4.00	Ginete Farm, Brgy. Balabag, La Carlota City	Sold

Ian Paul Prez	Phil 2004-0827	1.69	Ginete Farm, Brgy. Balabag, La Carlota City	Sold
Marlenda Gabutero	Phil 2004-0827	0.50	La Carlota City	Sold
Marlenda Gabutero	Phil 2000-0791	5.50	La Carlota City	Sold
Joemarie Pollos	Phil 2004-0827	5.00	Had. Bacsay, La Castellana, Negros Occidental	Sold
Ernesto Qui-ay	Phil 2004-0827	5.00	Had. Viscaya, Brgy. Gomez, Pontevedra, Negros Occidental	Sold
Karen Qui-ay	Phil 2004-0827	5.00	Brgy. Gomez, Pontevedra, Negros Occidental	Sold
Ernesto Qui-ay	Phil 2004-0827	3.00	Had. Viscaya,, Brgy. Gomez, Pontevedra, Negros Occidental	Sold
Ronnie Era	Phil 2004-0827	3.00	Brgy. Burgos, Pontevedra, Negros Occidental	Sold
Farm Services	Phil 2004-0827	1.10	SRA-LGAREC	Farm Services
Ramon Tambiga	Phil 2004-0827	5.00	BUCFWA Coop, Vallehermoso, Negros Oriental	Sold
TOTAL		**49.84**		

PHIL 99-1793

NAME OF PLANTER	VARIETY	NO. OF LACSAS	ADDRESS	REMARKS
(Fert. Rec. Valid. Trial)	Phil 99-1793	3.00	Bais, Neg. Or.	Research
SRA	Phil 99-1793	2.35	SRA-LGAREC Field	Station Planting/
Ma. Lourdes Dormido				Research
(Fert. Rec. Valid. Trial)	Phil 99-1793	0.10	San Carlos City, Neg. Occ.	(Replanting)
Cristina Corro	Phil 99-1793	0.05	Isabela, Negros Occidental	
Paulino Oñal	Phil 99-1793	1.00	Ormoc City	
Luz Felicidad Jalandoon	Phil 99-1793	0.70	Ahoy, Iloilo	Sold
Deogracias Tianchon	Phil 99-1793	0.02	Cuartero, Capiz	
JIRCAS	Phil 99-1793	0.40	Sagay, Neg. Occ.	Research
Jerry Regacho	Phil 99-1793	3.00	Hda. Alacapa, Haguuimit, La Carlota City	Sold
JIRCAS	Phil 99-1793	0.70	Dulao, Bago City, Neg. Occ.	Research
Arnel Estiamba	Phil 99-1793	5.00	Pontevedra, Neg. Occ.	Sold

Evenyl Gordoncillo	Phil 99-1793	5.00	Mabinay, Neg. Or.	Sold
Geward Glenn Estocado	Phil 99-1793	2.00	Hinigaran, Negros Occidental	Sold
Margarito Espada	Phil 99-1793	4.00	Brgy.Antipolo, Pontevedra, Neg. Occ.	Sold
SRA-OPSI	Phil 99-1793	1.60	SRA-LGAREC	OPSI
Randy Eupalan	Phil 99-1793	5.00	Pontevedra, Negros Occidental	Sold
Natividad Estandante	Phil 99-1793	0.36	Brgy. Ayaman, Tacas, Cabanatuan, Iloilo	Sold
Egbert Sansioco	Phil 99-1793	2.50	Cauayan, Negros Occidental	Sold
Cecil Ambait	Phil 99-1793	0.10	Bacolod City	Sold
Oscar Calog	Phil 99-1793	5.00	Vallehermoso, San Carlos City, Negros Occidental	Sold
Raul Reyes	Phil 99-1793	5.00	Kabankalan, La Castellana, Negros Occidental	Sold
SRA (FS)	Phil 99-1793	0.80	SRA	
Jovito Blanaque	Phil 99-1793	3.00	Talaptap, La Castellana, Negros Occidental	Sold
Edgar Tenefracia	Phil 99-1793	0.50	Brgy. Maninihon, Bayawan City, Negros Oriental	Sold
Farm Services	Phil 99-1793	3.55	SRA-LGAREC	Farm Services
Aldin John Diotay	Phil 99-1793	5.00	Biak na Bato, La Castellana, Negros Occidental	Sold
Fernando Argelles	Phil 99-1793	5.00	Murcia, Negros Occidental	Sold
Farm Services	Phil 99-1793	3.22	SRA-LGAREC	Research
TOTAL		**67.95**		

PHIL 97-3933

NAME OF PLANTER	VARIETY	NO. OF LACSAS	ADDRESS	REMARKS
Ma. Lourdes Dormido				Research
(Fert. Rec. Val. Trial)	Phil 97-3933	0.25	CPSU, Kabankalan, Neg. Occ.	(Replanting)
Ma. Lourdes Dormido				Research
(Fert. Rec. Valid. Trial)	Phil 97-3933	1.00	Bais, Negros Oriental	(Replanting)
Natividad Estandante	Phil 97-3933	1.34	Brgy. Ayaman, Tacas, Cabanatuan, Iloilo	Sold
TOTAL		**2.59**		

PHIL 2000-0791

NAME OF PLANTER	VARIETY	NO. OF LACSAS	ADDRESS	REMARKS
SRA	Phil 2000-0791	1.46	SRA	Replanting
Cristina Corro	Phil 2000-0791	0.05	Isabela, Negros Occidental	
Paulino Oñal	Phil 2000-0791	1.00	Ormoc City	
Ronel Lirazan	Phil 2000-0791	2.00	Hda. Colansan, Isabela, NO	Sold
NAFPWA	Phil 2000-0791	4.00	Brgy. Ilijan, Bago City, NO	Block Farm
Ronel Lirazan	Phil 2000-0791	3.00	Hda. Colansan, Isabela, NO	Sold
Theresa Lo	Phil 2000-0791	5.00	Pandan, La Castellana, NO	Sold
Ronel Lirazan	Phil 2000-0791	2.00	Hda. Colansan, Isabela, NO	Sold
Luz Felicidad Jalandoon	Phil 2000-0791	0.30	Ahoy, Iloilo	Sold
Luz Felicidad Jalandoon	Phil 2000-0791	0.90	Ahoy, Iloilo	Sold
Marlenda Gabutero	Phil 2000-0791	5.50	Bayawan, negros Oriental	Sold
Fulbert Rojo	Phil 2000-0791	1.00	Brgy. Nagasi, La Carlota City, NO	Sold
Ronel Lirazan	Phil 2000-0791	4.00	Hda. Colansan, Isabela, Neg. Occ.	Sold
Jennifer Ferrer	Phil 2000-0791	2.00	Manghanoy, La Castella, Negros Occidental	Sold
	Phil 2000-0791	5.00		Sold
OPSI	Phil 2000-0791	1.60	SRA LGAREC	Sold
	Phil 2000-0791	5.00		Sold
Elizabeth Gotones	Phil 2000-0791	5.00	Mabinay, Negros Oriental	Sold
Michael Suarez	Phil 2000-0791	5.00	Silay City, Negros Occidental	Sold
Jerry Gustilo	Phil 2000-0791	45.00	Talisay, (FFHC MD)	Sold
Narciso Casipong	Phil 2000-0791	0.25	Brgy. Dawis, Bayawan City, Negros Oriental	Sold
Glenda Sol Cordero	Phil 2000-0791	0.25	Brgy. Pinggot, Cauayan, Negros Occidental	Sold
Ramon Tambiga	Phil 2000-0791	5.00	BUCFWA Coop, Vallehermoso, Negros Oriental	Sold
Roger Jaud	Phil 2000-0791	5.00	Had. Alegria, La Carlota City, Negros Occidental	Sold
TOTAL		**109.31**		

PHIL 2000-2569

NAME OF PLANTER	VARIETY	NO. OF LACSAS	ADDRESS	REMARKS
Alberto del Monte	Phil 2000-2569	2.00	Brgy. Camba-og, Hinigaran, Neg. Occ.	Sold
Rommel Flores	Phil 2000-2569	5.00	Ma-ao, Bago City	Sold
Jad Lacson	Phil 2000-2569	2.10	Hda. Pukatod, Moises Padilla, NO	Sold
Deogracias Tianchon	Phil 2000-2569	0.02	Cuartero, Capiz	Nursery
TOTAL		**9.12**		

PHIL 2006-1899

NAME OF PLANTER	VARIETY	NO. OF LACSAS	ADDRESS	REMARKS
Paulino Oñal	Phil 2006-1899	1.00	Ormoc Mill District	MDDC
Ronel Lirazan	Phil 2006-1899	0.10	Hda. Colansan, Isabela, Neg. Occ.	Nursery
SRA-(FS)	Phil 2006-1899	4.40	SRA-LGAREC Field	SRA-Planting
Research	Phil 2006-1899	0.12	SRA-LGAREC	Research
Farm Services	Phil 2006-1899	3.25	SRA-LGAREC	Farm Services
Research (PTCM)	Phil 2006-1899	0.12	SRA-LGAREC	Research
TOTAL		**8.99**		

PHIL 2006-2289

NAME OF PLANTER	VARIETY	NO. OF LACSAS	ADDRESS	REMARKS
Paulino Oñal	Phil 2006-2289	1.00	Ormoc Mill District	(Adaptability
Research	Phil 2006-2289	0.12	SRA-LGAREC	
Farm Services	Phil 2006-2289	2.35	SRA-LGAREC	Farm Services
Research (PTCM)	Phil 2006-2289	0.12	SRA-LGAREC	Research
TOTAL		**3.59**		

PHIL 2003-1389

NAME OF PLANTER	VARIETY	NO. OF LACSAS	ADDRESS	REMARKS
Ian Paul Prez	Phil 2003-1389	1.00	Ginete Farm, La Carlota City	Sold
TOTAL		**1.00**		

C. TRACTOR POOL AND OPERATION

Two station tractors: John Deere 6605 Ford 6600 were utilized to conduct field operations such as plowing/replowing, harrowing/reharrowing and furrowing scraping and spreading of mudress, leveling and fertilizer application using chisel of field experiments and HYV propagation/demo/commercial fields. Hauling activities like disposal of garbage, hauling of cane samples, canepoints, cane tops, fertilizer (organic and inorganic), soil, firewood, waste materials and rescue operation were likewise performed.

Tractor Field Operations:

OPERATION	AREA (Ha.)	NO. OF TRIPS
Plowing/re-plowing	34.08	
Harrowing/re-harrowing	74.524	
Furrowing	22.294	
Scraping/spreading of mudpress		
Levelling/hauling/rescue		
operation		11

EXTENSION SERVICES DIVISION

INTRODUCTION

The major role of Extension and Technical Services Division is to cater the different technical needs of its clientele especially those sugarcane farmers covering areas in the Visayas. It is in the forefront in providing technical knowledge and skills to the sugarcane industry.

With the growing interest on new products from sugarcane, such as, biofuels, muscovado sugar and energy, it is expected to have a significant increase in area planted to sugarcane. Consequently, the number of sugarcane planters will also increase due to Comprehensive Agrarian Reform Program (CARP) of the Department of Agrarian Reform. The new small sugarcane planters, specifically the Agrarian Reform Beneficiaries (ARBs) require most of the needed technical assistance in order to profitably grow the crop and improve their lives. Due to these recent developments, the area coverage and the number of clientele to be served by the office will generally increase.

The Extension Services, provide the necessary technical assistance on sugarcane farming to 38, 169 sugarcane planters in 14 mill districts of the region covering 36, 315 farms. The total area harvested for CY 2015-2016 was approximately 269,106.43 ha. The average farm productivity in the region was 59.01 TC/ha.; 114.77 Lkg/ha.; and 1.94 Lkg/TC.

Block Farming Project

A total of 29 block farms with 1,520 enrollees covering an area of 1,948.07 hectares enrolled for this year. About 100,204.38 hectares was profiled including those private/ leased farms, block Farms (financed by Coop/APCP/ Land Bank etc.), potential block farms (CLOA on process) and block farms with organization but individually managed/ financed/contract growing.

SRA- DAR Funded Block Farms

For the whole Visayas, 22 DAR funded block farms was identified and were continuously monitored and provided job coaching by different Mill District Officers and Junior Agriculturists.

They were given technical assistance such as Sugarcane Farm Management Seminar, proper harvesting and fertilization, recommendation of cost reduction measures to reduce their cost of production per hectare by using the combination of organic and inorganic fertilizer and access to high yielding varieties.

SIDA Block Farms

In pursuit with the implementation of SIDA Block Farming Project for 2016, the Extension Services Division identified the following block farms to avail the project:
To avail such project, the block farm should submit and comply the following documentary requirements which includes:

- *DSWD Requirements for CSO Accreditation: Eighteen (18) SIDA Block Farms completed their DSWD CSO Accreditation Requirements. DSWD CSO accreditation will ensured that government agencies (GAs) shall only partner with legitimate civil society organizations (CSOs) in order be eligible to receive public funds as beneficiary or implementing entities of government programs and projects.*
- *Memorandum of Understanding: Sixteen (16) Block Farms had already their Memorandum of Understanding (MOU).*
- *Memorandum of Agreement: Twenty Four (24) block farms submitted and complied their Memorandum of Agreement (MOA).*
- *Mother Proposal and Farm Plan & Budget: Thirty (30) SIDA Block Farm submitted their Mother Proposal and Farm Plan & budget approved by the authorize block farm representatives.*

Block Farm Interventions

The main goal of block farming project is to increase the production of small farmers at lower cost of inputs thus various activities and interventions were conducted to fulfil this. As part of SRA intervention to block farms the following interventions were conducted:

- Geo-tagging and monitoring of Farm to Mill Road
  Four (4) SIDA Block Farms were recipient of 2016 SIDA Farm to Mill Road Project. Junior Agriculturist and Technical Personnel conducted the geo-tagging and monitoring. Construction of FMR is on-going.

- Survey of possible source of irrigation

  Ocular survey on irrigation is also conducted to identify those block farms which are feasible for installation of irrigation facilities. Four (4) SIDA block farms were visited by the Technical Assistant assigned in the irrigation project. This site includes in block farms namely: Dama Farm Workers Agrarian Reform Beneficiaries Association (DAFWARBA), United Fishermen Multi-Purpose Cooperative (UFIMCO), Bolbog Small Farmers Association (BSFA) and Mangulod Farmers Multi-Purpose Cooperative (MAFARMPUCO). On-site inspection and visitation to other identified SIDA Block Farms is to follow. This site visitation done enables him to know what specification of irrigation is best suited to be used in the block farm.

- Soil Sampling and Analysis

  Soil Fertility Profile become very effective since members of the block farms had already availed the free soil sampling for soil analysis as campaigned by every mill district through the help of our field personnel assigned. A total of **359** samples were analyzed from January to December 2016 with **41** Block Farms and **248** planters benefited. This covered a total hectare of **365.38** hectares.

Below is the Summary of Soil Analysis Report gathered from SRA Bacolod and La Granja Agricultural Research and Extension Center (LGAREC) Soil Laboratory:

Quarter	No. of Block Farms Served	Number of Planters Served	Number of Soil Samples Analysed	Total Area (Ha.)
1st	19	138	189	189.03
2nd	10	65	93	90.27
3rd	2	10	13	10
4th	10	35	64	76.08
TOTAL	41	248	359	365.38

- GPS Survey and Mapping

  Moreover, as part of SRA intervention to Block Farm beneficiaries, the extension division conducted area calculation and mapping to the individual farms of each members of the block farms to gather accurate data on areas they enrolled. Currently, fast tracking of area calculation on the block farms for SIDA 2016 is on the top priority.

To date, 46 block farms were mapped and surveyed with a total area of 1,644.92 hectares.

- Preparation and Development of Farm Plan and Budget

  To identify the specific cost of production on a hectare basis, farm planning and budgeting is must. Through the help of the Technical Personnel and Junior Agriculturist with the supervision of the Mill District Officers and Area Plan and Programs Supervisor. A total of 100 block farms were assisted in the preparation of farm plan and budget. Coaching on how to make farm plan and budget were done to members of the block farms. At first, they were allowed to determine the different operations with its corresponding cost per hectare basis. Field by field inspection and validation were also done by the Technical Personnel assigned in order to determine what specific operation is needed for each block farms.

- Continuous monitoring of One (1) Hectare HYV Nursery in Block Farms

  Monitoring and evaluation of 15 established nurseries with 16.2 hectares were continuously done. The following were the established HYV nursery in block farms: Malangsa Tuburan Bakyas Farmers Association, San Jose Villa Multi-Purpose Cooperative, Bantayan Organic Growers Association, Mataba Womens Association, Had. Bernardita Agrarian Reform Cooperative, Hacienderos Agrarian Reform Cooperative, Had. Cahilamonan Agrarian Reform Association, Had. Malaga Cuenca Agrarian Reform Cooperative, Minoro Isabel Agrarian Reform Beneficiaries Association, Estela Agrarian Reform Cooperative, Casal.agan Agrarian Reform Cooperative, Gen. Malvar Agrarian Reform Cooperative, Kauswagan Agrarian Reform Cooperative, Malaga Cuenca Agrarian Reform Beneficiaries Association and Masulog Farmers Agrarian Cooperative. A total of **81.133** lacsa were produced.

- On-site Sugarcane Farm Management Seminar

  One of the program by the extension division is the farmers farm based training wherein the farmers were trained on site for two (2) days. Topics includes: SIDA Roadmap, Film showing on Sugarcane Cultural Management Practices from planting to ratooning. Sugarcane Pest & diseases, soil sampling, liming, and fertilizer management, bio-organic fertilizer production, intercropping, cost reduction measure, variety programming and farm planning and budgeting were also included in the seminar.

For the year 2016 under the corporate budget 44 Sugarcane Farm Management seminars was conducted for the Block Farms in the different Mill Districts of Visayas with 1,706 participants. Coaching and technical assistance on sugarcane farming.

	Name of Organization	Mill District	Number of Participants	Date
1	Nato Soliguen Agrarian Reform Beneficiaries Farmers Association	La Carlota	43	May 17, 2016

2	Sitio Tagnipis ARB and Farmers Ass'n.	Lopez	32	May 17, 2016
3	Albiga Agrarian Beneficiaries Multipurpose Cooperative	Tolong	42	May 18, 2016
4	Hagnaya Agrarian Reform Cooperative	Sagay-Danao	37	May 18, 2016
5	Bayawan United Small Planters Association	Tolong	40	May 19, 2016
6	Bunga Enterprise Development Association	First Farmers-Bac Mur	21	May 24, 2016
7	Inayawan Small Sugarcane Farmers Association (ISSFA)	Sonedco	56	May 24, 2016
8	Tamisu small Farmers Multi-purpose Cooperative	Bais- Ursumco	23	May 24, 2016
9	Bahay Malaumon Farmers Association	Bais- Ursumco	53	May 25, 2016
10	Camalanda-an Agro Forest Association	Sonedco	63	May 25, 2016
11	Pinowayan Integrated Social Forestry Farmers Association	First Farmers-Bac Mur	52	May 25, 2016
12	(GARBFA) Guindagaan Agrarian Reform Beneficiaries and Farmers Association	Dacongcogon	56	May 26, 2016
13	Mabinay Planters Association	Bais- Ursumco	53	May 26, 2016
14	Magballo Agrarian Reform Beneficiaries & Farmers Association	Dacongcogon	29	May 27, 2016
15	Brgy. Buenavista Agrarian Reform Beneficiaries Association	Biscom	28	May 31, 2016
16	Young Farmers Association of Pangalatkaton	Santos-Lopez	22	May 31, 2016
17	Coscoluella Monfort Agrarian Reform Beneficiaries Association	Biscom	34	June 01, 2016
18	Managopaya Farmers Association	Santos-Lopez	40	June 01, 2016
19	Cambangbato Farmers Association	Santos-Lopez	38	June 02, 2016
20	TARC- Tara Agrarian Reform Cooperative	Biscom	32	June 02, 2016
21	Nagkahiusa ang Mag-uuma sa Caputatan	Bogo-Medellin	25	June 07, 2016
22	NCJC Unifarm Block Farm	Ormoc-Hisumco	25	June 09, 2016
23	Dolores Occidental Leyte Farmers MPC (OLFAMCA Block Farm)	Ormoc-Hisumco	24	June 10, 2016
24	United Small Planters Multi Purpose Association	Biscom	30	September 01, 2016
25	Duran Small Planters Cooperative	Biscom	41	September 02, 2016

26	Bulig Uswag sang Grupo upod sa Asosasyon sang Mangunguma kag Mamumugon	Sonedco	39	September 05, 2016
27	Sandungao Agrarian Reform Cooperative	Maao	52	September 05, 2016
28	Brgy. Bacong Agrarian Reform Beneficiaries Farmers and Farm Workers Association	Maao	52	September 06, 2016
29	Sinalpan Agrarian Reform Beneficiaries Association	Sonedco	43	September 06, 2016
30	Bantayan Farmers Agrarian Reform Beneficiaries Association	Sonedco	34	September 07, 2016
31	Nakalang Padilla Farm Workers Beneficiaries Association	Maao	41	September 07, 2016
32	Mataba Womens Association	Dacongcogon	40	September 08, 2016
33	Palayog Farm Workers Association	Biscom	49	September 08, 2016
34	Caningay Agrarian Reform Cooperative	Dacongcogon	26	September 09, 2016
35	CASPLA- Caradio-an ARBs SmallSugar Planters Assn	Biscom	35	September 09, 2016
36	BASFA- Bagong Silang Farmers Association	Biscom	27	September 10, 2016
37	Cambaog Farmers Association	Biscom	40	September 12, 2016
38	Aranda Talatala Farmers Association (ARTAFA)	Biscom	37	September 14, 2016
39	Bato Integrated Organic SmaLL Scale Farmers Agriprenuer Association	Biscom	44	September 15, 2016
40	Bagaas Agrarian Reform Association	Biscom	35	September 16, 2016
41	Victor Lopez	La Carlota	53	September 19, 2016
42	Parian Planters Marketing Cooperative	Monomer	30	September 27, 2016
43	Progressive Women Agrarian Reform Cooperative	Monomer	35	September 28, 2016
44	Agsirab Farmers Development Cooperative	Monomer	55	September 29, 2016
		TOTAL	**1,706**	

- ***Performs Technology Transfer to Farmers Field***

  Performs technology transfer of matured technologies from the research stations to sugarcane farms through farm visits, consultation and assistance to sugarcane planters in different Mill Districts.

  Extension Services Divisions has its own way of reaching farmers for consultation through ''Agricultural Clinic for Sugarcane Farmers'' or locally known as *''Klinika*

sa Barangay para sa Katubuhan". Referred problems of small farmers were given appropriate recommendations during this activity. Agriculturist in the Mill District was known to be the ''doctor'' in this clinic. There were 341 consultations made in this agricultural clinic.

- ***Facilitated financing loans in different GFI's, private banks, mills and planters association.***
  A total of 10 meetings/conferences/ trainings was conducted and 13 loan financing package facilitated.

- ***Facilitated and monitoring of Farm to Mill Road Projects***
  A total of 30 locations of farm to mill road in Visayas were assisted for the project with 44.0208 kilometers and 4, 548 sugarcane planters benefited.

  Below is the Proposed FMR in the Visayas with its corresponding length and status of implementation.

Region	Municipality / City	Description of Proposed Sugarcane FMR	Length, Km	Status of Implementation (AO December 12 2016)	
				Financial	Physical
NIR	Talisay City	Brgy. Katilingban	1.0540	Public bidding conducted	
NIR	Talisay City	Brgy. Concepcion	1.1690	Public bidding conducted	
NIR	Bago City	Brgy. Bacong to Sitio Sandungao	0.7500	90% partially accomplished	
NIR	Bacolod City	Brgy. Felisa, Bacolod City	0.8800	No coordination with the SRA/not yet inspected	
NIR	Ilog	Brgy. Magballo Proper to Sitio Montelo, Brgy. Pinggot	2.0500	Construction started last November (2nd week)	
NIR	Calatrava	Brgy. Dolis to Main Road	1.8000	Right of Way on process	
NIR	Hinigaran	Brgy. Aranda to Candumarao to Camalobalo to Brgy. Calapi	1.1300	100% accomplished as of Nov. 28, 2016	
NIR	Hinigaran	Brgy. Cambugsa to Brgy. Paticui	1.1300	98.85% partially accomplished	
NIR	Hinigaran	Brgy. Himaya to Sitio Capirot	1.0078	98.85% partially accomplished	
NIR	Hinigaran	Brgy. Tuguis to Brgy. Bagaas	1.1300	96.85% partially accomplised	
NIR	La Castellana	Crossing 92 to Hacienda Pacita Proper,Brgy. Sag-ang	3.0100	51% partially accomplished	
NIR	EB Magalona	Brgy. San Isidro to Brgy. Consing	1.4400	Public bidding conducted	
NIR	Silay City	Sitio Lupa to Main Road, Brgy. Capitan Ramon	1.3400	Public bidding conducted	

NIR	Escalante City	Brgy. Libertad to Brgy. Dian-ay Road, Brgy. Bandila	2.1600	Public bidding conducted
NIR	Escalante City	Brgy. Fe to Central Leonor, Brgy. Jonob-jonob	1.8900	500 meters were already constructed but funded by city government/awarded about to start
NIR	Cauayan	Brgy. Talacdan to Sitio Malabong	1.7500	400 meters completed
NIR	Cadiz City	Sitio Nabinay Overflow to Barangay Mabini	2.1200	Public bidding conducted/Right of way on process
NIR	Victorias City	Brgy. 10, Victorias City to Brgy. San Isidro, EB Magalona	2.8800	50% were already constructed but funded by PRDP
NIR	Bayawan City	Sitio Pulang Yuta to Brgy. Kalumboyan Proper	1.5200	Staking and widening of the area
NIR	Bayawan City	Brgy. Kalumboyan Proper to Brgy. Tabuan	1.5200	Staking and widening of the area
NIR	Mabinay	Barangay Pantao Proper to Sitio Ganas	1.1300	awarded already but not yet started
NIR	Tanjay	Tanjay Road to Barangay San Miguel	0.7500	50% completed
NIR	Bais City	Barangay Lunoy to Barangay Cambagahan	1.1300	50% completed
NIR	Manjuyod	Crossing Santa Monica to Barangay Monica	1.2000	awarded already but not yet started
VI	San Enrique	Junction Mapili to San Enrique	0.9800	Construction on-going, funded by PRDP.
VI	Anilao	Brgy. Badiang to URC Mill	2.2000	Construction on-going, funded by PRDP.
VI	President Roxas	Brgy. Cabug Cabug	1.0600	60% partially accomplished
VI	Pontevedra	Brgy. Lantangan	1.0600	Construction started
	Medellin	Brgy. Canhabagat to Main Road to Brgy. Canhabagat Proper	1.3700	30% completed
VIII	Ormoc City	Barangay Ipil to Sitio Awihao, Barangay Boroc	1.4100	100% completed
		TOTAL	**44.0208**	

- ***Soil health assessment and collection of soil sample for laboratory analysis.***

Collection of 1, 354.98 soil samples for soil analysis were conducted from 368 farmer's beneficiaries.

- ***5 Hectares HYV Nursery***

  Unavailability of new High Yielding Varieties is one of the major reason why the productivity level remains the same or even decreasing. As we all know that

planting materials plays a vital role in sugarcane production. To address this problem, the office together with 5 MDDCs established 5 hectares HYV Nursery.

The 5 hectares HYV Nursery were established in 5 Mill District Development Councils namely: Iloilo MDDC, Brgy. Imbang Grande, Iloilo City; Bogo MDDC, San Antonio, Binabag, Bogo City; Ormoc MDDC, Kananga, Leyte; First Farmers MDDC, Had Socorro, Brgy. Matab-ang, Talisay City; Lopez MDDC, Sagay City. A total of 1,166.10 lacsas was distributed to 112 planter beneficiaries.

- ***Reproduction and Distribution of IEC Materials***

  Strengthens the communication program through reproduction and distribution of komiks, brochures, and sugarcane farm management manual.

Total number of komiks, techno-guide, brochures and manuals reproduced	10,995
No. of Materials Distributed	1,954
No. of Recipients	1,889

- ***Capability Building Seminars for Sugarcane Planters***

  Low productivity in sugarcane farming can be greatly attributed to the farmers' limited technical knowledge in managing their crop from land preparation to harvesting/milling and ratooning. Their lack of access to information can be traced mainly to unavailability of training opportunities due to budget constraints, distance from service providers. The conduct of various on-site Sugarcane Farm Management Seminars and OPSI Sugarcane Farm Management Seminars can greatly help in educating the planters on the proper technologies and management of sugarcane.

  Under the Sugarcane Industry Development Act Capability Building Program for sugarcane planters, 17 Batches of Sugarcane Farm Management Seminars were conducted with 304 participants and 16 batches for the Farm Planning and Budgeting Seminar with 280 participants.

Location		Mill District	Title of Seminar	Date	Number of Pax
1	Bayawan City	Tolong	Sugarcane Farm Management Seminar	December 09, 2016	24
2	Sta. Teresa Tanjay City	Bais	Sugarcane Farm Management Seminar	December 06, 2016	29
3	Sta. Teresa Tanjay City	Bais	Farm Planning and Budgeting	December 07, 2016	29
4	San Miguel, Tanjay City	Bais	Sugarcane Farm Management Seminar	December 08, 2016	35

5	San Miguel, Tanjay City	Bais	Farm Planning and Budgeting	December 09, 2016	37
6	Had. Minesota, Brgy. Sag-ang, La Castellana	La Carlota	Sugarcane Farm Management Seminar	December 01, 2016	32
7	Had. Minesota, Brgy. Sag-ang, La Castellana	La Carlota	Farm Planning and Budgeting	December 02, 2016	32
8	La Carlota City	La Carlota	Sugarcane Farm Management Seminar	December 19, 2016	32
9	La Carlota City	La Carlota	Farm Planning and Budgeting	December 20, 2016	32
10	Brgy. San Antonio, Himamaylan	Biscom	Sugarcane Farm Management Seminar	December 06, 2016	29
11	Brgy. San Antonio, Himamaylan	Biscom	Farm Planning and Budgeting	December 07, 2016	29
12	Brgy. Riverside, Isabela	Biscom	Sugarcane Farm Management Seminar	December 08, 2016	33
13	Brgy. Riverside, Isabela	Biscom	Farm Planning and Budgeting	December 09, 2016	33
14	Brgy. Tabugon, Kabankalan	Dacongcogon	Sugarcane Farm Management Seminar	December 08, 2016	30
15	Brgy. Tabugon, Kabankalan	Dacongcogon	Farm Planning and Budgeting	December 09, 2016	47
16	Brgy. Tagoc, Kabankalan	Dacongcogon	Sugarcane Farm Management Seminar	December 06, 2016	60
17	Brgy. Tagoc, Kabankalan	Dacongcogon	Farm Planning and Budgeting	December 07, 2016	41

Since 1989 the OPSI (Outreach Program for the Sugar Industry) has continuously provided in-house and in-field training opportunities to people in the sugar industry. It has produced 4,961 graduates in 136 batches and for the year 2016 three batches were conducted, Batch 137-139 with a total of 146 participants from the different sectors of the industry and all over the Philippines.

Batch No.	Date	Number of Participants
Batch 137	July 26-28, 2016	39
Batch 138	August 23-25, 2016	32
Batch 139	October 4-6, 2016	75
	TOTAL	**146**

The office was also able to facilitate 19 Sugarcane Farm Management Seminars with 808 participants sponsored by the mill.

- ***Orientation/ Action Planning Workshop and Seminar on Sugarcane Farm Management Seminar for Technical Personnel and Assistants***

  Prior to the implementation of the Sugarcane industry Development Act of 2016, the Extension Services Division conducted a 4-day orientation/ action planning workshop & sugarcane farm management seminar last November 2-5, 2016 to the 49 newly hired Technical Personnel and Technical assistants at SRA La Granja, La Carlota City. This activity aims to equip personnel with additional knowledge and skills to assist and help block farms. This was also done to enable them to know what their role for the success of the project.

  The program started with an orientation about SRA and the Sugarcane Industry Development Act of 2016, presented by the OIC, Manager III, Atty. Johana S. Jadoc. This was followed by the presentation of Extension Plan & Programs and Accomplishment Reports of Block Farming Project. Human Resource and accounting matters were also discussed by the Ms. Concon of Human Resource and Ms. Lopez of Accounting. Topics on Sugarcane Farm Management were discussed by the Researchers and Mill District Officers. Workshop on Action Planning was facilitated by Mr. Paul Oñal and reporting follows for critiquing.

- ***Conducted and facilitated "Orientation/ Farm Planning and Budgeting Workshop/ Sugarcane Farm Management Seminar for Block Farm Chairman and Manager.***

  The implementation of the Block Farming Project under the Sugarcane Industry Development Act also included capacitating the management team of every Block Farms in handling/managing the operations. The seminar last November 21-25, 2016 at SRA, LGAREC was attended by the Chairman and the Project Manager of the identified SIDA Block Farms. On the fourth and fifth day the Technical Personnel attended the activity to level-off on the activities that will be implemented in the various projects under the program.

- ***Crop Estimation Project***

  Under the Crop Estimation Project various orientation seminars were conducted with mill representatives together with the surveyors. The Yield Estimation System for Sugarcane (YESS) Project with UP Diliman two orientations (for La Carlota and Biscom) about the project was conducted last July 2016 attended by the MDDC and mill representatives with a total of 48 participants.

FARM SURVEYORS SUMMARY AS OF JANUARY TO MAY, 2016

FARMS SURVEYED AND VALIDATED					
	MILL DISTRICT	DIGITIZED AREA	TOTAL AREA VALIDATED	REMAINING AREA	% VALIDATED
1	*VICTORIAS*	31,511.01	31,492.41	18.60	99.94%
2	*LOPEZ*	13,828.33	13,651.88	176.45	98.72%
3	*HPCO*	16,664.41	16,246.96	417.44	97.49%
4	*BACMUR (FIRST FARMERS)*	25,656.97	24,689.47	967.51	96.23%
5	*LA CARLOTA*	19,351.00	19,646.00	-295.00	101.52%
6	*BISCOM*	25,753.67	26,191.16	-437.49	101.70%
7	*MA-AO*	12,119.60	12,105.88	13.71	99.89%
8	*TOLONG*	19,612.09	18,121.00	1,491.08	92.40%
9	*DACONGCOGON*	18,359.56	13,439.80	4,919.76	73.20%
10	*SONEDCO*	18,966.29	19,169.88	-203.60	101.07%
11	*BAIS*	24,297.69	24,117.42	180.27	99.26%
12	*BOGO-MEDELLIN*	8,527.40	8,589.69	-62.28	100.73%
13	*SAN CARLOS*	12,017.30	12,094.61	-77.31	100.64%
14	*SAGAY-DANAO*	10,898.94	4,730.06	6,168.88	43.40%
15	*CAPIZ/MONOMER*	17,266.74	10,313.45	6,953.30	59.73%
16	*PASSI & SANTOS-LOPEZ*	29,794.04	20,400.62	9,393.41	68.47%
17	*ORMOC*	10,088.45	10,111.58	-23.13	100.23%
			285,111.86	29,601.61	
	TOTAL DIGITIZED	314,713.474			
	TOTAL VALIDATED	285,111.86			
	REMAINING	29,601.61			
	PERCENTAGE	90.59%			
	NO. OF SURVEYORS	62			

The 2nd phase of Farm Surveying under the Crop Estimation Project has already finished wherein the Surveyors of every Mill District was trimmed down into one (1) Surveyor per district, since the remaining area to be surveyed is only 29,601.61 hectares out of 314,713.474 hectares digitized area from January to May 2016. As project approached its 3rd phase last June which is the integration of data and analysis, some problems were identified by the GIS team specifically the double ID entries of the data submitted by surveyors.

SUMMARY FROM SEPTEMBER TO DECEMBER 2016

The phase 3 of the project started last September while the GIS Team were fixing the problem during the 2nd phase. Hiring of 14 Surveyors for the purpose to continue the survey on the sample farms of each mill districts. The total of 2, 006 sample farms was established. Out of 2, 544 farm visited, 538 sites were re-visited and monitored.

MILL DISTRICT	Name of Surveyor	TOTAL NO. OF SAMPLING	Re Visited Sites & Monitored	TOTAL FARMS VISITED
BACMUR	FRANCIS MARTIN PABALINAS	138	34	172
TOLONG	DANNY BASCAR	168	27	195
BOGO-MEDELLIN	VIRGEUN ERALDO	138	82	220
SAN CARLOS	CHARNEL PUCONG	121	18	139
ORMOC	BUNNY JUN DELA CRUZ	16		16
HPCO	RAFFY LOPEZ	90		90
BISCOM	JESUS TINGSON JR.	184	156	340
SAGAY DANAO - LOPEZ	ED DARWIN MARK AURINO	149		149
CAPIZ MONOMER	ROLLIE DIALA	116	80	196
SONEDCO -DACONGCOGON	LEANDRE MONTON	218		218
ILOILO	CARMELO DELA CRUZ	169		169
LA CARLOTA - MAAO	JOVEL CAMACHO	199	113	312
VICTORIAS	LAURO RAMOS JR.	129		129
BAIS	EDGARDO MANABA	171	28	199
TOTAL		2006	538	2544

AUTOMATED WEATHER STATION STATUS REPORT

MILL DISTRICT	REMARKS
ORMOC	READY FOR INSTALLATION
BOGO	FOR CONSTRUCTION THIS JANUARY 2017
SAGAY-DANAO	READY FOR INSTALLATION
LA CARLOTA/MAAO/BISCOM	IDENTIFIED SITES FOR FINALIZATION AND GEOTAGGING
HPCO	DECLINE/Already have several AWS in the area
BACMUR/FIRSTFARMERS	FOR CONSTRUCTION THIS JANUARY 2017
VICTORIAS	FOR CONSTRUCTION THIS JANUARY 2017
TOLONG	SITE AREA OF AWS WILL BE TRANSFERRED INSIDE THE TOLONG SUGARMILL
BAIS	FOR CONSTRUCTION THIS JANUARY 2017

PASSI	DONE FENCING
SANTOS LOPEZ	FENCE FABRICATED AND TO BE INSTALLED THIS WEEK
SONEDCO	FOR CONSTRUCTION THIS JANUARY 2017
LOPEZ	FOR PURCHASING OF MATERIALS
SAN CARLOS	WAITING FOR THE MOA BETWEEN THE MDDC AND THE FARM OWNER
*** SOME MDDC ARE HESITANT BECAUSE THE COST OF FENCING RANGES FROM PHP 40,000 TO PHP 70,000.	

The Ormoc, Sagay-Danao and Passi Mill District were the sites that are ready for AWS installation. The HPCo Mill district has declined the installation of AWS because they already had several AWS installed in the district. Other Mill District sites are now purchasing materials and others are ready for construction this January 2017. Some Mill District Development Council are hesitant because the cost of materials and labor for fencing as proposed ranges from Php 40,000.00 to Php 70,000.00.

- ***Collaboration of projects and services with the TESDA, DOLE, SUCs, MDDC and SIFI.***

Ten (10) trainings with 551 participants (Agriculturist, Crop Technician and trainors) were conducted. Moreover, there are 106 seminars or fora on sugarcane farm management and child labor conducted with 3, 022 participants. Provision of planting materials and establishment of HYV nursery were also done in 21 SUCs.

- ***Retooling and skills enhancement training for Junior Agriculturist, Mill District Officer and Technical staff.***

Last December 12-15, 2016, retooling and assessment was conducted for the 12 Junior Agriculturist, 35 Technical Personnel, 14 Technical Assistants and 16 Farm Surveyors. Updating of new technologies to enhance their skills and capability as extension worker. Assessing their actual accomplishments for rating and recommendations.

- ***Development of Databank and File Management System***

The main focus of the SIDA BLOCK FARM PROJECT DATABANK and File Management System is to organize and create a file server for the data submitted by the technical personnel to the office regarding of SIDA Block Farm Project. The system is composed of 30 SIDA Block Farms which each one of them has its account and main page wherein the end-user is only limited to access and view the digitized map of its specific block farm, farm profile and status and its consolidated field by field monthly operations. The user can also navigate the menu of the program wherein he can access and upload data such as HYV Nursery and Demo Farm Project, Farm Plan and Budget of that specific Block Farm on the program.

The program is being established and managed in a local network and can be accessed with the use of an internet browser such as internet explorer, google chrome, Mozilla firefox. This will allow every user to access the program regardless of the device and platform he is using which is connected to the local area network of the office.

- ***Technical Development and Training Unit***

The Technical and Training Unit is directly under the Extension Services. The unit is task to plan, implement and coordinate all trainings and packaging technologies of RDE. TDTU also coordinated the sugarcane related trainings of SRA at LGAREC. It also caters On the Job Training and Summer Farm Practice of Students coming from various agricultural schools in the region. It also accommodates visitors and field trippers from academic, GOs, NGOs and private individuals and institution. In addition, the following are the TDTU accomplishment for this year:

1. Facilitated the conduct of On the Job Training of 28 Agriculture students of Capiz State University (CAPSU-
2. Dumarao), 18 students from Northern Iloilo Polythecnic State College (NIPSC), 3 Agricultural Engineering, 17 SugarTech students from Central Philippines State University (CPSU- Kabankalan Campus) and 10 Agribusiness students from CPSU San Carlos Campus.
3. Delivered lecture during the conduct of Trainings for Summer Farm Practicum of 13 students from La Carlota City College, 20 students from CPSU-San Carlos campus, 10 students from Central Philippine Adventist College (CPAC), 2 students from Central Philippine University and 6 students from University of Negros Occidental Recoletos (UNO-R).
4. Prepared schedule and sent out invitation through Mill District Officers for OPSI Sugarcane Farm Management Training.
5. Printing and reproduction of the following:
    - 3, 500 copies of 20 kinds of Brochures and Leaflets
    - 100 copies of English OPSI Manual
    - 1, 000 copies of Ilonggo OPSI Manual
    - 200 copies of Cebuano OPSI Manual
6. Facilitated the reproduction of 7, 500 copies of various government forms.

Consolidated & Prepared by:

Planning & Policy Department
2016