

Milk and Meat Production Systems Resources

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Milk and Meat Production Systems Resources

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships			5%	
202	Plant Genetic Resources			15%	
205	Plant Management Systems			5%	
302	Nutrient Utilization in Animals			20%	
303	Genetic Improvement of Animals			7%	
305	Animal Physiological Processes			10%	
306	Environmental Stress in Animals			15%	
308	Improved Animal Products (Before Harvest)			10%	
313	Internal Parasites in Animals			8%	
601	Economics of Agricultural Production and Farm Management			5%	
	Total			100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	8.4	0.0
Actual	0.0	0.0	11.7	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	2136057	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	2044377	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	316040	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Six meetings were held to discuss the situation of the local dairy, beef, small ruminants and swine industries and to seek majority opinion on research priorities, with participation of stakeholders, researchers, extension personnel and in some cases government officials. Also a one-hour panel discussion on the prospects and situation of the dairy industry of Puerto Rico was broadcast over the UPR Radio Network.

Five field days were conducted. Specific topics included genetic improvement and rearing and finishing of beef cattle; the FAMACHA method of assessing the internal parasite status of goats; and establishment and utilization of leguminous forages, including shrubs.

Of seven seminars presented to diverse audiences, six were organized by the beef integrated working group and one by the small ruminants group. Topics included the nutritional value of local beef as human food, economics of beef breeding-herd operations, strategies of dietary supplementation for grazing animals, and marketing of sheep and goat meats. Publications for producers included two issues of "La Res Informativa", one concerning the intramuscular fat content of pasture-fed bulls and the other presenting the results of a survey of beef producers' opinions on problems effecting efficiency and profitability of their operations; and one issue of "Ruminantia" dedicated to yield, physical conformation and classification of caprine carcasses. One article on slaughterhouse-waste compost was published in the journal Waste Management in 2007, and another, on in-vitro larval activity of gastrointestinal parasites of grazing goats, was accepted by the Journal of Parasitology. Publications in the local Journal of Agriculture of the UPR included one report on release of the perennial, rhizomatous peanut var. "Henrico", and an article on physical and sensory characteristics of hindquarter muscles of bulls; and two research notes on use of exogenous hormones in artificial insemination of sows and on the leguminous shrub, leucaena, as a supplement to local grass hay diets.

Nine papers reporting research findings were presented at meetings of international scientific organizations (American Society of Agronomy, American Forage and Grasslands Council, Caribbean Food Crops Society, Latin American Association of Animal Production), and one at the local society (SOPCA). Five MS theses were completed by students of the Animal Industry Department and two by those of Agronomy and Soils. Topics included somatic cell counts of dairy cows' milk and mastitis pathogens, fibrolytic enzymes for increasing digestibility of tropical grasses, nutritional evaluation of shrub legumes, tannin-containing legumes to combat internal parasites in goats, prebreeding flushing in goat does, evaluation of hays of mixed guineagrass-clitoria vs. rhodesgrass, and agronomic and fermentative aspects of two maize hybrids. A requested report was submitted to the Advisory Committee for Developing Management Plans for the Carraizo and La Plata Watersheds of the Caribbean Office of EPA, entitled "Toward the development of precision feeding of phosphorous in dairy farms in Puerto Rico".

2. Brief description of the target audience

Farmers, Extension professionals, government personnel, scientists, and private professionals.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	0	0	0	0
2007	0	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	6	6

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Number of meetings held with stakeholders to discuss the industries' situation and research priorities

Year	Target	Actual
2007	4	6

Output #2

Output Measure

Number of popular (non-refereed) publications prepared based on research results.

Year	Target	Actual
2007	4	4

Output #3

Output Measure

Number of field days held in research facilities and/or private farms to validate and demonstrate RMPs based on research results.

Year	Target	Actual
2007	4	5

Output #4

Output Measure

Number of publications made in refereed scientific journals.

Year	Target	Actual
2007	4	6

V(G). State Defined Outcomes

O No.	Outcome Name
1	Number of participants in field days willing to adopt the RMPs demonstrated.
2	% market participation of local beef.

Outcome #1

1. Outcome Measures

Not reporting on this Outcome for this Annual Report

2. Associated Institution Types

3a. Outcome Type:

3b. Quantitative Outcome

Year	Quantitative Target	Actual
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3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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V(H). Planned Program (External Factors)

External factors which affected outcomes

Economy

Appropriations changes

Public Policy changes

Competing Programmatic Challenges

Other (Internal restructuring and renovation of research facilitiesfacilities)

Brief Explanation

Experiments planned for the year under several projects were postponed or suspended due to termination of the milking operation at the Gurabo Substation in December, 2007. The Gurabo milking herd was transferred to the dairy at Lajas, in spite of the fact that the newly constructed milking parlor, free stall confinement area, and manure handling system at Lajas were not yet operational. Also, conditions of the pastures at Lajas are inferior to those at Gurabo and need much improvement.

Another problem arose with the feed-mixing operation at Lajas, where experimental formulas of concentrate feeds are prepared for use mostly with poultry and dairy cattle. The lack of functionality of a large part of the machinery, due to worn-out elements of the electrical power system, made preparation of the several-ton quantities of feed needed for experiments, an unreasonably labor-intensive task. Work on swine reproduction and poultry management (broilers and layers) at Lajas has also been delayed because new physical facilities for housing these classes of livestock and for waste management are still pending completion.

Unanticipated increases in the cost of synthetic fertilizer have had a big impact on the budgets of experiments with beef cattle under grazing. Also large increases in the cost of concentrate feeds needed for maintenance of the dairy cattle and swine herds, added to pre-existing budget problems.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

Other ()

Evaluation Results

Key Items of Evaluation