

# 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
202	Plant Genetic Resources			18%	
204	Plant Product Quality and Utility (Preharvest)			5%	
205	Plant Management Systems			8%	
213	Weeds Affecting Plants			5%	
302	Nutrient Utilization in Animals			30%	
307	Animal Production Management Systems			12%	
308	Improved Animal Products (Before Harvest)			10%	
313	Internal Parasites in Animals			5%	
405	Drainage and Irrigation Systems and Facilities			7%	
	<b>Total</b>			100%	

## V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	0.0	0.0	11.0	0.0
<b>Actual</b>	0.0	0.0	11.8	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	2358569	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	1906383	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	471801	0

## V(D). Planned Program (Activity)

### 1. Brief description of the Activity

Research has continued on the development of new forage resources and better management of those already under extensive use, in an effort to substitute for part of the concentrates upon which milk production in Puerto Rico heavily depends. Studies on forage dependent feeding practices, animal management, animal genotypes, and carcass and meat characteristics are also underway. The latter will be used to devise a local system of beef grading. A major effort in progress is also aimed at educating the consuming public as to the health benefits of locally produced grass-fed beef. Research efforts with small ruminants are closely associated with those of forages and include studies on the voluntary consumption and digestibility of novel forage resources; non-pharmaceutical-dependent methods of controlling internal parasites, such as use of shrubs with high levels of condensed tannins; haylage and silage production and evaluation; and use of underground, trickle irrigation for efficient water utilization in forage production.

The areas of research most active during the year 2008 under this Program Area were the following: (1) grass-fed beef cattle production, (2) factors affecting quality characteristics of local beef, (3) performance of slick-hair dairy cows, (4) utilization of organic wastes from dairy farms as fertilizer, (5) agronomic and nutritional evaluation of novel grass, legume and shrub forages for feeding small ruminants, (6) control of interval parasites in small ruminants using forages high in condensed tannin content, (7) testing of forages and management practices leading to production of high quality hay and haylage, (8) evaluation of different grasses for characteristics that affect ensiling and use of silage additives, (9) subterranean irrigation of forages. The preliminary or final results of a number of these research endeavors were communicated to stakeholders at diverse outreach activities.

The outreach activities carried out during the year included: one meeting with producers specifically to receive their inputs as to research priorities, six consultation sessions with government officials, eight seminars, fora or lectures, eight training sessions for producers, seven training sessions for Agricultural Extension Service agents and ARS professionals, and six field days.

### 2. Brief description of the target audience

Dairy farmers, beef cattle producers, poultry producers, commercial hay producers, 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
2008	0	0	0	0

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

#### Patent Applications Submitted

Year	Target
Plan:	0
2008:	0

#### Patents listed

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Plan</b>	0	4	
2008	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

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	4	4

**Output #2**

**Output Measure**

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

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	3	2

**Output #3**

**Output Measure**

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

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	4	6

**Output #4**

**Output Measure**

Number of publications made in refereed scientific journals.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2008	4	6

**V(G). State Defined Outcomes**

<b>O No.</b>	<b>Outcome Name</b>
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 (Delays in new facilities construction; deterioration of research facilities and equipment)

**Brief Explanation**

A well organized and productive research program in agricultural sciences requires land, animals, machinery, equipment, materials, infrastructure, laboratories, computers, scientific and support personnel, and adequate funding, to name to most important items. With regard to machinery and vehicles, we do not have those required for making large round bales of hay or large bales wrapped in plastic for haylage production, and must depend on arrangements with the private owners of these machines to undertake work in this area, which sometimes results in compromised dates of harvest. Infrastructure represents an especially big problem. The newly constructed milking parlor, free stall confinement area and manure handling systems are not yet operational. The old facilities still in use are not adequate for the timely achievement of objectives. At the Small Animals Farm, new buildings for housing and conducting research with poultry and swine also remain unfinished, which imposes severe limitations on the scale of the research that can be conducted. Thus, while research conditions should improve when all these facilities are finished, progress during this year has been slower than initially planned.

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

**1. Evaluation Studies Planned**

Before-After (before and after program)

Other (Small sample survey)

**Evaluation Results**

{No Data Entered}

**Key Items of Evaluation**

{No Data Entered}