

High Latitude Agriculture- AFES

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V(A). Planned Program (Summary)

1. Name of the Planned Program

High Latitude Agriculture- AFES

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	0%		12%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plant	0%		7%	
204	Plant Product Quality and Utility (Preharvest)	0%		10%	
205	Plant Management Systems	0%		20%	
212	Pathogens and Nematodes Affecting Plants	0%		1%	
301	Reproductive Performance of Animals	0%		5%	
302	Nutrient Utilization in Animals	0%		5%	
306	Environmental Stress in Animals	0%		5%	
307	Animal Management Systems	0%		5%	
401	Structures, Facilities, and General Purpose Farm Supplies	0%		5%	
405	Drainage and Irrigation Systems and Facilities	0%		5%	
502	New and Improved Food Products	0%		5%	
512	Quality Maintenance in Storing and Marketing Non-Food Products	0%		5%	
601	Economics of Agricultural Production and Farm Management	0%		5%	
701	Nutrient Composition of Food	0%		5%	
	Total	0%		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	6.7	0.0
Actual	0.0	0.0	13.8	0.0

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

Extension		Research	
Smith-Lever 3b & 3c 0	1890 Extension 0	Hatch 824523	Evans-Allen 0
1862 Matching 0	1890 Matching 0	1862 Matching 726273	1890 Matching 0
1862 All Other 0	1890 All Other 0	1862 All Other 1507408	1890 All Other 0

V(D). Planned Program (Activity)**1. Brief description of the Activity**

•Greenhouse production systems: Day length information was provided for growers on curly parsley, Golden Lemon thyme, fresh spearmint, snap beans Provider and Concesa and bulb onions; •Controlled environment production systems: Butterhead lettuce was tested in a nutrient film system to enhance and extend seasonal crop production for commercial and subsistence growers. Specialty plastics were evaluated for use in high tunnel systems; •Horticultural crop production: Peony roots were purchased from six commercial sources to study the variation in root size in relation to quality of commercial plant. Roots will be planted in May 2008; •Market garden production: potato varieties and management strategies were evaluated for production in South Central Alaska, the major potato production region. The primary stakeholder event was the annual Potato Day meetings held in Palmer for the potato industry. The Potato Demonstration Day for Anchorage gardeners and multiple potato tasting were held around the state. One of the products of this collaboration is the production and evaluation of new potato germplasm that has potential marketing opportunities for small-scale growers; •Field research on perennial legumes and other alternative forage and grain crops: Variety trials included Polish canola, Oriental and brown mustards, yellow mustard, Camelina, Otal spring feed barley, Thual hullless barley, Ingal hard red spring wheat, and Reward Polish canola. Forage crops included cicer milkvetch, forage galega, and lupinaster clover; Field research on soil nutrient management to improve production efficiency and yields of subarctic plants concerned the use of phosphorus fertilizer. Soil was analyzed for total and extractable phosphorus; •Turfgrass research: This year is the 6th over wintering evaluation of turfgrass cultivars.42 cultivars have been tested. Evaluations of the sand-based green and fairway cultivar studies were conducted biweekly. Fertilizer management on Laser bluegrass and Penn G-6 creeping bent grass was conducted.Nitrogen rates were also evaluated; •Livestock research: Reindeer estrus, breeding and gestation length as well as milk production in reindeer cows and calf growth rate associated with specific milk components. Results have been reports at four scientific meetings three annual producer association meetings (Alaska Diversified Livestock Association, Kawerak Reindeer Herders Association, Fox River Cattlemans Association), 21 public workshop presentations, numerous farm consultation sessions with individual livestock producers in Alaska, and animal science classes taught in on the University of Alaska Fairbanks. Reindeer health research involved the measuring of mean serum concentrations of Zinc, Iron, Magnesium, Selenium and Copper in yearling male and female reindeer during summer. The six herds measured are the Davis, Gray, Noyakuk, Olanna, and Weyiouanna herds. Research on feed supplementation compared Smooth bromegrass with pasture grasses for nutritional profile.

2. Brief description of the target audience

•Greenhouse and Controlled Environment Production Systems: owners, managers and employees of local greenhouse and other horticulture operations and businesses; individuals considering potential horticulture production ventures; students at secondary and post-secondary levels including undergraduate and graduate students; initial and continuing training opportunities for the local workforce of horticulture operations. •Horticultural Crop Production: horticultural trials: all home gardeners, commercial greenhouse/nursery/landscape businesses in Interior, Alaska; berry research: home berry pickers, commercial berry harvesters and cottage industries based upon berry processing, Extension home economics programs; peonies: commercial Alaska fresh cut flower growers. •Market Garden Crop Production: commercial growers of potatoes and the industries that service them, home gardeners, retail venues that sell potatoes, subsistence potato growers. •Perennial legumes and forage and grain crops:forage crop producers and livestock producers in interior Alaska. Farmers, extension agents, State of Alaska Divison of Agriculture personnel, Federal agencies such as USDA/ARS and NRCS. •Turfgrass: Golf course superintendents, municipalities, schools, and private turfgrass maintenance personnel, sports field turfgrass users, turfgrass seed growers and marketers and homeowners. •Livestock production: Alaska Diversified Livestock Association; Kawerak Reindeer Herders Association, Nome, Alaska; Fox River Cattlemans Association; ranchers and livestock producers on the Alaska road system and Kodiak Island. •Quality reindeer meat: producers and consumers in Alaska and nationally, Reindeer Owners and Breeders Association •Graduate and undergraduate students

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	85	250	0	0
2007	100	1700	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	7	7

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Production practice recommendations for intensively managed vegetable, agronomic, and greenhouse/nursery crops

Year	Target	Actual
2007	25	574

Output #2

Output Measure

Agricultural and forestry production and harvest practices that minimize economic and environmental risks.

Year	Target	Actual
2007	2	3

Output #3

Output Measure

Sustainable production practices that minimize off-farm and out-of-state inputs for plant and animal nutrition and pest control.

Year	Target	Actual
2007	2	3

Output #4

Output Measure

Identify high value plant products.

Year	Target	Actual
2007	2	2

Output #5

Output Measure

Identify new agricultural and forestry products and markets for Alaska producers.

Year	Target	Actual
2007	2	2

V(G). State Defined Outcomes

O No.	Outcome Name
1	Cost savings by producers utilizing more efficient crop production practices (better varieties, disease control, nutrient management, irrigation, etc.)
2	Cost savings by utilization of in-state animal feeds
3	Number of producers utilizing recommended practices for agronomic and horticulture crops.
4	Number of new crop and animal markets identified and utilized.
5	Magnitude of in-state inputs used for plant and animal production
6	Number of golf courses using recommended turfgrass cultivars and management practices.
7	Number of new products and new uses of traditional products available for markets.

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

Natural Disasters (drought, weather extremes, etc.)

Economy

Appropriations changes

Public Policy changes

Government Regulations

Competing Public priorities

Competing Programmatic Challenges

Populations changes (immigration, new cultural groupings, etc.)

Other (global climate change)

Brief Explanation

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

1. Evaluation Studies Planned

Before-After (before and after program)

During (during program)

Evaluation Results

Key Items of Evaluation