

Applying Science and Technology

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Applying Science and Technology

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
806	Youth Development	100%			
	Total	100%			

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	9.0	0.0	0.0	0.0
Actual	7.4	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c 484158	1890 Extension	Hatch	Evans-Allen
	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Food Science: Show Me Quality Assurance, Pork Quality Assurance, Camp Food and Fitness, Meats Contest & Cured Ham, Growth & Quality of Live Animal Evaluation, Livestock Judging and Grading. Animal Science Food Animal: Beef Project, Judging, Demonstration, Exhibition; Sheep Project, Judging, Demonstration, Exhibition; Swine Project, Judging, Demonstration, Exhibition; Goat Project, Judging, Demonstration, Exhibition; Dairy Project, Judging, Demonstration, Exhibition; Poultry Judging, Demonstration, Exhibition. Animal Science Companion Animal: Horse Project, Bowl, Hippology, Judging, Demonstration, Exhibition; Dog Project, Judging, Demonstration, Exhibition; Cat Project, Judging, Demonstration, Exhibition. Vet Science: Project, Judging, Demonstration, Exhibition. Embryology. Plant Science: Horticulture Project, Judging, Demonstration, Exhibition; Soybean Project, Judging, Demonstration, Exhibition; Corn Project, Judging, Demonstration, Exhibition; Gardening Judging, Demonstration, Exhibition; Bee Keeping. Environmental/Natural Sciences: Project, Judging, Demonstrations, Exhibition. Community Mapping: Water Quality/Aquatic Education; Sports Fishing; Project WET; Wildlife Habitat and Management; Project WILD; Leopold Education Project; Geology; Forestry Project, Demonstration and Exhibition; Project Learning Tree; Solid Waste Management. Information Sciences: Project, Judging, Demonstration, Exhibition, Community Mapping; Computers; Software-based projects; Geo-Spatial; Internet; Digital Media. Physical Sciences Project, Judging, Demonstration, Exhibition, Community Mapping: Robotics; Design; Bicycle; Built Environments; Home Environment; Design/Manufacturing – Textiles; Aero Space; Woodworking; Welding; Electricity; Small Engines; Energy Use and Conservation.

2. Brief description of the target audience

Adults (youth staff, local leaders, parents, volunteers, teachers, organizational leaders) Youth aged 5 - 19.

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	550	2500	26000	7500
2008	7558	11841	29029	17615

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

	Extension	Research	Total
Plan	0	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Attendance of project leaders at workshops for food science, animal science, plant science, environmental science, informational sciences and physical sciences.

Year	Target	Actual
2008	550	7188

Output #2

Output Measure

Number of youth enrolled in food science, animal science, plant science, environmental science, informational sciences and physical sciences.

Year	Target	Actual
2008	5500	35635

Output #3

Output Measure

Number of youth enrolled in embryology.

Year	Target	Actual
2008	10000	29719

Output #4

Output Measure

Number of hits on website.

Year	Target	Actual
2008	20000	8883

V(G). State Defined Outcomes

O No.	Outcome Name
1	Youth will competently demonstrate knowledge and skills gained through demonstrations and project exhibition.

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.)

Brief Explanation

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

1. Evaluation Studies Planned

After Only (post program)

During (during program)

Other (Demonstration, Judging and Exhib)

Evaluation Results

20,320 youth demonstrated knowledge that met or exceeded established criteria through public presentations or exhibition; 7,257 youth demonstrated knowledge that minimally met established criteria through public presentations or exhibition; 1,451 youth demonstrated knowledge that could improve based on established criteria through public presentations or exhibition.

Missouri youth in grades 6 – 10 were surveyed between March and July 2007 at 16 sites throughout the state. The sample of 214 youth included 126 4-H participants and 88 non-4-H participants. A 20-item questionnaire measuring factors shown to be related to students' attitudes toward science was completed by the 214 youth (George, 2000). There were significant differences between 4-H'ers and non-4-H'ers on 3 of the 20 items. 4-H'ers strongly agreed that "Science will be useful in my future." ($p < .006$). 4-H'ers strongly agreed that science is important in their daily life ($p < .041$) and 4-H'ers spent more time learning or working with technology during their out-of-school time than non-4-H'ers ($p < .020$).

George, Rani. (2000). Measuring Change in Students' Attitudes Toward Science Over Time. Retrieved from: <http://www.springerlink.com/content/r47qu08133663887/fulltext.pdf>

Key Items of Evaluation

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