



- * Animal Systems
- * Environmental Services/Natural Resource Systems
- * Food Products and Processing Systems
- * Plant Systems
- * Power, Structural and Technical Systems

Animal Systems

Study of Animal:

- * Life Processes
- * Health
- * Nutrition
- * Genetics
- * Management
- * Processing

Animals: small animals, aquaculture, livestock, dairy, horses and/or poultry

Examples:

- compare nutrient levels on animal growth
- research new disease control mechanisms
- effects of estrous synchronization on ovulation
- compare effects of thawing temperatures on livestock semen
- effects of growth hormone on meat/milk production

Environmental Services/Natural Resource Systems

Study of:

- * Waste Management
- * Management of Natural Resources and Influence on Environment

Natural Resources: Soil, Water, Wildlife, Forest, and Air

Examples:

- effect of agricultural chemicals on water quality
- effects of cropping practices on wildlife populations
- compare water movements through different soil types

Food Products and Processing Systems

Study of:

- * Product Development
- * Quality Assurance
- * Food Safety
- * Production
- * Sales and Services
- * Regulation and Compliance
- * Food Services

- Examples:
- effects of packaging techniques on food spoilage rates
 - resistance of organic fruits to common diseases
 - determining chemical energy stored in foods
 - control of molds on bakery products

Plant Systems

Study of Plant:

- * Life Cycles
- * Classifications
- * Functions
- * Structures
- * Reproduction
- * Media and Nutrients
- * Growth and Cultural Practices

Plants: Crops, Turf Grass, Trees, Shrubs and Ornamental Plants

Power, Structural and Technical Systems

Study of:

- * Agricultural Equipment
- * Power Systems
- * Alternative Fuel Sources
- * Precisions Technology

PST: Woodworking, Metalworking, Welding and Project Planning for Agricultural Structure

Examples:

- develop alternate energy source engines
- create minimum energy use structures
- compare properties of various alternative insulation products
- investigation of light/wind/water energy sources

Social Systems

Study of Human Behavior and Interaction of Individuals in and to Society:

- Agricultural Education
- Agribusiness Economics
- Agricultural Communications
- Agricultural Leadership
- Social Science Applications

Social Science Applications: Agriculture, Food and Natural Resources

Examples:

- investigate perceptions of community members towards alternative agricultural practices
- determine the impact of local/state/national safety programs upon accident rates in agricultural/natural resource occupations
- comparison of profitability of various agricultural/natural resource practice
- investigate the impact of significant historical figures on a local community
- determine the economical effects of local/state/national legislation impacting agricultural/natural resources

Rules

- * Plagiarism
- * Ethics
- * Safety
 - * "Experiments on live animals involving surgery, the removal of parts, injection of harmful chemicals and/or exposure to harmful environments are not acceptable at the National FFA Agriscience Fair."

Research Expenses

Research Project Expenses						
Expense Item	Number of Units	Price per Unit	Total	Amt. Funded by Student	Amt. Funded by Other	Name of Funding Source

Plagiarism- don't do it, use quotations

Ethics Statement- do not commit scientific fraud or misconduct

-presentation of others works as your own

-fabrication of data

-falsification of data

Safety

-no live vertebrates at the fair

-no chemicals, hypodermic needles, syringes or crystals at the fair

-no human, warm blooded animal, or wild cultures (skin, throat, mouth, etc.)

-no exhibits using over 120 volts

-overall exhibits must be safe!

Logbook

- * Date
- * Description of Activities/General Observations
- * Data Table/Chart with Observation for Each Treatment

Written Report

- * Title Page
- * Abstract
- * Introduction
- * Review of Literature
- * Materials and Methods
- * Results
- * Discussion and Conclusion
- * References
- * Acknowledgements

-New page for each day
 -Notebook or loose pages

Title Page- Short Descriptive Title (<15 words), name, grade, school and school address
Abstract- brief summary of purpose, methods, results and conclusion (no discussion, citations or references to tables/figures)
Introduction-“Why was the work done?” - state problem, purpose of research, findings of earlier work, general approach and objectives
Review of Literature- review previous studies, similar research methods, history of research on topic- how will your research improve upon existing information
Materials and Methods-enables others to reproduce results by duplicating experiment- past tense, third person
Results-summarize results- just the facts observations, patterns, trends and relationships
Discussion and Conclusion- recap results/discuss if they were different from expected, did they support your hypothesis- why did you see what you saw, draw conclusions, tie to literature
References- only cite reference that were used, use APA Format, give credit if not common knowledge
Acknowledgements- anyone who helped you