



National FFA Organization

Agri-Science Fair Categories

Program Contact Information

agrisciencefair@ffa.org

317-802-4402

I. Biochemistry/Microbiology/Food Science

Biology of microorganisms-bacteriology, virology, protozoology, fungi bacterial genetics, yeast. This area also can include chemistry of life processes-molecular biology, molecular genetics, enzymes, photosynthesis, protein chemistry, food chemistry, hormones, etc.

Examples:

Compare different yeast fermentation techniques for converting sugars to alcohol. Research resistance of organic fruits to common diseases. Examine techniques for controlling molds on bakery products.

II. Environmental Sciences

Study of pollution (air, water and land) sources and their control; ecology

Examples: Study effect of agricultural chemicals on water quality. Compare water movements through different soil types. Examine effects of cropping practices on wildlife populations. Compare different irrigation systems for energy efficiency. Research uniform water quality standards.

III. Zoology (Animal Science)

Study of animals-animal genetics, ornithology, ichthyology, entomology, animal ecology, paleontology, cellular physiology, animal husbandry, cytology, histology, animal physiology, invertebrate neurophysiology, studies of invertebrates, etc.

Examples: Compare effects of different thawing temperatures on livestock semen. Compare effects of different nutrient levels on animal growth. Study effects of growth hormones on meat or milk production. Research new disease control mechanisms. Examine effects of estrous synchronization on ovulation.

IV. Botany (Plant/Soil Science)

Study of plant life-agriculture, agronomy, horticulture, forestry, plant taxonomy, plant physiology, plant pathology, plant genetics, hydroponics, algae, etc.

Examples: Study effects of lunar climate and soil conditions on plants growth. Examine effect of substrate particle size on shiitake mushroom growth. Research effects of heavy metals such as cadmium on edible plants. Compare plant growth using hydroponics and conventional methods. Study effect of ultraviolet light on soil microbes.



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V. Engineering (Mechanical/Agricultural Engineering Science)

Technology; projects that directly apply scientific principles to manufacturing and practical uses-mechanical, chemical, electrical, environmental engineering, etc.

Examples: Develop alternate energy source engines. Investigate light energy sources. Test absorption media for plant materials. Compare various tillage methods for energy efficiency.