

Minico High School

Agriscience and Technology

Middle School Agricultural Science and Technology Program



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Minico High School – Agricultural Education Program

Proposal Request for Middle School Agricultural Science and Technology Program

Dwight Johnson, State Administrator for Idaho Career and Technical Education; Expand CTE to Middle Schools for Career Exploration: Legislation is proposed to allow ICTE to begin funding CTE programs starting in seventh grade. Develop program curriculum and implementation budget to expand career exploration programs for middle schools. This is a 2 – 3 year process.

AGRICULTURE

An understanding of agriculture is important for every citizen. Every person has a vested interest in agriculture. The economic well-being of our society is dependent on agriculture to supply an inexpensive, safe and abundant food supply. One of the purposes of agriculture education is to inform students about the industry which is so vital to our future. Agricultural literacy is important to every consumer as well as to those planning a career in agriculture.

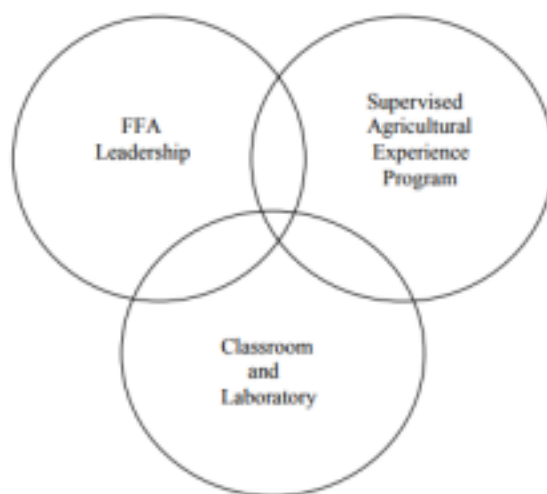
The curriculum is designed to integrate with other disciplines at the Middle School levels in an effort to make English, science, math and other academic subjects more relevant to careers in the world of work. There is a broad spectrum of career opportunities in the agricultural industry and the many related fields. The middle school program is intended to give students an overview of these opportunities.

AGRICULTURE EDUCATION PROGRAMS

Middle school programs introduce students to the agricultural industry at a critical stage of their development. Middle school students are at the appropriate age to learn about the important issues and vast career opportunities related to agriculture. Middle school students are ready and able to learn about the agricultural industry and the crucial relationships between agriculture, the economy and society. **In the Minico Agriscience and Technology Program**

Agricultural education exposes students to a wide range of career choices. Agriculture is the largest industry in the U.S., involving 22% of the U.S. workforce.

Agricultural Education is composed of three distinct yet interrelated components.



RATIONAL

In a recent meeting with the Minico Agriculture Advisory Board, it has become apparent that there is a desire for the development of a Middle School Agriculture Science and Technology Program.

- The Middle School Program will reduce course load pressure at the High School level. (This year the high school had to cut seven sections).
- The Middle School Program will allow students to use AG EXPLORER at an appropriate age to

- identify career opportunities and align student interest with proper course selections.
- Middle School Agriculture Education programs provide hands-on exploration of STEM.

A basic component is **classroom and laboratory** experiences. In the classroom, students learn concepts and theories dealing with a broad spectrum of agricultural and agribusiness topics. The classroom is followed by the laboratory model of instruction, where concepts and theories are carried through to their application. Here, the students are taught “hands-on” skills, along with assurance the skills learned are practical.

Both classroom and laboratory instruction are put to use in the **Supervised Agricultural Experience Program (SAEP)**, a strong component of the program. In this approach, students work and learn real-life situations, where they obtain on-the-job skills. SAEP can vary from the traditional home projects to entrepreneurship or cooperative work experience in production or agribusiness.

The third component, **the FFA organization**, provides an avenue for developing leadership skills. As an integral, intra-curricular component of the agricultural education program, the FFA has numerous systems to deliver instruction in leadership. In addition, FFA provides incentives for improved student performance through its awards program. Teachers of agriculture have always stressed the problem solving and decision making approach to teaching. Through this approach, students are better equipped to cope with the changes that are constantly occurring, not only in the agricultural industry but in life in general. The strength of the program lies in the flexibility and dedication of teachers whose philosophy is, “We don’t just teach agriculture, we teach students.”

CURRICULUM FOR AGRICULTURE EDUCATION AT THE MIDDLE SCHOOL LEVEL

The middle school curriculum in agriculture is designed to provide instruction about agricultural, environmental literacy and agricultural careers for middle school students. Lessons encompass a problem-solving instructional approach where applicable. Student-oriented activities are included to provide opportunities for experiential learning.

Laboratory experiences or hands-on activities should consume a significant portion of the time allotted for each instructional area. Hands-on laboratory experiences supplement classroom activities by providing students an opportunity to experience what it is like to work in agricultural occupations. Exploration of careers assists students in making tentative career choices. Students must be provided opportunities to investigate occupations in a variety of ways including individual, small group, and large group activities.

In the sixth and seventh grades, students are exposed to broad career areas and learn about the food, fiber, and environmental systems. Students are introduced to these career areas through selected lessons and hands-on activities related to those careers. In the eighth grade, students receive more in depth exploratory experiences in specific occupational fields. As a result of their experiences in sixth and seventh grades, students begin to make tentative choices of career options in terms of their interests and abilities.

The success of a career exploration program is dependent upon the cooperation and support of the local community, school administration and teachers. Provisions should be made for business leaders in the community to participate in the middle school program through an advisory committee.

The middle school agriculture program, when implemented as outlined, should provide a method whereby all students may:

- be introduced to a wide range of career opportunities
- become informed consumers
- participate in personal development and leadership activities
- develop agricultural and environmental literacy skills

PURPOSE AND OBJECTIVES

The purpose of the middle school agricultural education program is to explore and stimulate interest in the world of work in the agricultural industry through prescribed classroom and laboratory experiences designed for basic understanding, introductory skill development, agricultural literacy and personal development.

Specific Objectives of the Middle School Agriculture Education Programs are to:

1. Provide background knowledge, understanding and abilities useful in helping students make decisions.
2. Develop personal attributes, attitudes and knowledge toward becoming a contributing member of society.
3. Stimulate interest and provide opportunities to acquire basic knowledge of and explore skills in such areas as agricultural research, forestry and natural resources, horticulture, and the plant and animal sciences.
4. Provide a setting for the application of the instruction in academic disciplines.
5. Provide a basis for student selection of one or more career areas for further study at the high school and collegiate level.
6. Develop agricultural and environmental literacy skills for all students for their benefit as consumers and citizens.

Agriculture Facts

- During the 1996 Centennial Olympic Games, Olympic athletes drank an estimated 100,000 gallons of milk, or the milk from 1,680 cows.
- About 18 million laying hens produce more than 4 billion eggs per year. •
- One U.S. Farmer feeds 129 people
- On average, each American will use the equivalent of a 100-foot tree, 18 inches in diameter every year.

A procedure for developing a new middle school agriculture education program or modifying an existing program could include the following steps:

1. Establish a development committee to include school personnel, agribusiness and community representatives, and state or regional agricultural education staff from the Department of Education.
2. Develop program mission and goals. Written goals should be identified to provide guidance in accomplishing the mission of the program.
3. Develop program objectives. These objectives should describe what the program of agricultural education is supposed to accomplish, the groups to be served and the outcomes to be achieved.
4. Prepare a list of items which must be considered in developing a program. These assumptions should include answers to the following questions:
 - a. What facilities and equipment will be made available?
 - b. How will youth organizations, and supervised agricultural experience programs be encouraged?
 - c. Will the agriculture teacher(s) be employed with an extended day and extended year

contract?

d. How will agriculture courses integrate academic concepts in support of basic skills?

e. Who will serve on the advisory committee and how will it be organized?

f. How will initial funding of the program be obtained?

g. At what grade levels will the program be taught? What will be the length of the courses? If applicable, how will middle school students rotate through the agriculture program?

5. Consider the following suggestions for identifying course content and installing the core curriculum units and problem areas in the instructional program:

a. Select the core content areas which should be taught from the state instructional guides for middle school agriculture.

b. Add additional content areas which address unique needs of the local community. c.

Schedule the proposed content areas for each course to allow for seasonal arrangement of instruction, efficient use of classroom and laboratory.

CAREER OPPORTUNITIES IN AGRICULTURE

Examples:

| | | |
|---------------------------------------|-------------------------------|----------------------------|
| Ag Accountant | Economist | Landscape Architect |
| Ag Chemical Dealer | Embryologist | Land Surveyor |
| Ag Electrician | Entomologist | Livestock Consultant |
| Ag Investment Manager | Environmentalist | Livestock Rancher |
| Ag Journalist | Equipment Dealer | Machine Engineer |
| Ag Lawyer | Farm Appraiser | Mammalogist |
| Ag Loan Officer | Farm Broadcaster | Marine Biologist |
| Ag Photographer | Fiber Technologist | Meat Cutter |
| Ag Public Relations | Field Inspector | Meat Scientist |
| Agribusiness Manager | Fire Warden | Meteorological Analyst |
| Agriculture Teacher | Fish Farmer | Microbiologist |
| Agriculturist | Fish Hatchery Manager | Nematologist |
| Agriscience Researcher | Floral Designer | Orchard Supervisor |
| Agronomist | Florist | Organic Chemist |
| Ag Scientist | Food Chemist | Parasitologist |
| Animal Behaviorist | Food Process Supervisor | Park Ranger |
| Animal Cytologist | Food Scientist | Pest Control Technician |
| Animal Geneticist | Forester | Pharmacologist |
| Animal Health Products Distributor | Forest Ranger | Poultry Scientist |
| Animal Physiologist | Game Farm Supervisor | Quality Control Supervisor |
| Animal Nutritionist | Game Warden | Range Manager |
| Apiculturist | Geneticists | Safety Engineer |
| Arboriculturist | Golf Course Superintendent | Salesperson |
| Bacteriologist | Grain Broker/Buyer | Scientific Illustrator |
| Beekeeper | Grain Elevator Buyer | Scientific Writer |
| Biochemist | Greenhouse Management | Seed Analyst |
| Bioengineer | Ground Water Geologist | Silviculturist |
| Botanist | Home Economist | Soil Conservationist |
| Christmas Tree Producer | Horticulturist | Soil Engineer |
| Computer Analyst | Hydraulic Engineer | Soil Scientist |
| County Extension Agent | Hydrologist | Tobacco Buyer |
| Crop Consultant | Ichthyologist | Turf Grass Management |
| Crop Duster | Insect & Disease Control | USDA Inspector |
| Crop Scientist | International Specialist | Veterinarian |
| Dairy Nutritionist | Irrigation Engineer | Wildlife Biologist |
| Ecologist | Lab Technician | Winery Supervisor |
| | | Zoologist |