

Science of Agriculture Potential Topics and Mentors

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Preparing Tomorrow's Agriculture Leaders...

SDSU Extension 4-H Youth Development Program has made improving science literacy a priority and is working to develop the next generation of agriculture scientists. A study of youth development by Tufts University shows that young people who participate in 4-H excel in school and science and are more likely to pursue a career in science, engineering or computer technology than their peers. 4-H's hands-on interactive programs expose youth to cutting-edge technology in agriculture that process abundant, healthy, and economical food. The 4-H Science of Agriculture program asks youth to work with agriculture experts explore and develop science-based solution to agriculture-related issues they have identified in their communities.

To aid in the development of future Science of Agriculture teams, SDSU Extension Field Specialists assisted with the compilation of the following topics. Please utilize the lists below when promoting the Science of Agriculture with 4-H youth.

Current issues facing South Dakota:

- The Relationship between Agriculture and the Environment
 - Grazing practices
 - Hunting influence on conservation practices
 - Land conservation impacts
 - Range management during extreme weather (drought or flood)
 - Soil health maintenance
 - Weed and pest management
- The Relationship between Agriculture and Food, Fiber, & Energy
 - Crop management during extreme events (drought or flood)
 - Food borne illness education
 - Food production increasing
 - Food safety vs. quality vs regulatory understanding
 - GMO understanding
 - Livestock management during extreme events (drought, floods, blizzards)
 - Renewable energies
 - Soil health maintenance
 - Weed and pest management
- The Relationship between Agriculture and Animals
 - Animal Welfare
 - Antibiotics / Veterinarian Feed Directives (VFD)
 - Backyard poultry
 - Chickens - Cage sizes/free range
 - Farm practices
 - Grazing practices
 - Livestock management during extreme events (drought, floods, blizzards)
 - Nutrition
 - Transportation
- The Relationship between Agriculture and Lifestyle
 - Aging farmers and ranchers
 - Chemical and equipment farm safety
 - Farm to table connections
 - Food borne illness education
 - Food label understanding
 - Food production increasing
 - Food safety vs. quality vs regulatory understanding
 - Hunting

- o Land conservation impacts
 - o Mental health during difficult times
 - o Nutritious food access
 - o Nutritious food affordability
 - o Weed and pest management
- **The Relationship between Agriculture and Technology**
 - o Chemical and equipment farm safety
 - o Recycling of agricultural products
 - o Remote Sensing
 - o Renewable energies
 - o Precision Agriculture
 - o Value added agriculture
- **The Relationship between Agriculture and the Economy**
 - o Cost effective quality assurance and food safety practices
 - o Extreme weather (drought or flood)
 - o Food label understanding
 - o Food safety vs. quality, vs regulatory understanding
 - o Home grown/processed goods marketing and selling
 - o Hunting
 - o Land conservation impacts
 - o Nutritious food affordability
 - o Soil health maintenance
 - o Tariffs and taxes
 - o Value added agriculture
 - o Weed and pest management

Potential Mentors

	Area of Expertise
Pete Bauman <i>SDSU Extension Range Field Specialist</i> Watertown, SD 605-882-5140 peter.bauman@sdstate.edu	If you are looking for information on grasslands, grazing, weeds, water, fire, or wildlife, SDSU Extension Range Field Specialist Pete Bauman can help. His work is committed to protecting the grasslands of South Dakota for future generations.
Sara Bauder <i>SDSU Extension Agronomy Field Specialist</i> Sioux Falls, SD 605-782-3290 sara.bauder@sdstate.edu	Sara focuses on South Dakota cropping systems. Her goal is to help producers make difficult decisions and answer questions ranging from how and when to plant, to problems during the growing season, to harvest options and planning for next year.
Amanda Bachmann <i>SDSU Extension Pesticide Education & Urban Entomology Field Specialist</i> Pierre, SD 605-773-8120 amanda.bachmann@sdstate.edu	Amanda works to educate South Dakota residents on topics related to entomology, pesticide utilization and safety.
Anthony Bly <i>SDSU Extension Soils Field Specialist</i> Sioux Falls, SD 605-782-3290 anthony.bly@sdstate.edu	Anthony focusses on educating producers and conducting applied research related to soil health. Some of his major topic areas include conservation cropping practices, cover crops, and crop rotation.
Ruth Beck <i>SDSU Extension Agronomy Field Specialist</i> Pierre, SD 605-773-8120 ruth.beck@sdstate.edu	Ruth is a certified crop consultant. In her work as an agronomy field specialist at the SDSU Extension Pierre Regional Center, she is interested in wheat, pulse crops, soils and soil health.

<p>Curtis Braun <i>SDSU Extension Food Safety Field Specialist</i> Sioux Falls, SD 605-782-3290 curtis.braun@sdstate.edu</p>	<p>Area of Expertise</p> <p>Curtis's area of expertise spans food safety, quality, and regulation. He works closely with food entrepreneurs as they prepare their food for market.</p>
<p>Adele Harty <i>SDSU Extension Cow Calf Field Specialist</i> Rapid City, SD 605-394-1722 adele.harty@sdstate.edu</p>	<p>Area of Expertise</p> <p>Adele has a passion for the ranching and beef industry. Her main area of focus is cow/calf nutrition.</p>
<p>Srinivas Janaswamy, Ph.D. <i>Assistant Professor of Food Science</i> South Dakota State University Brookings, SD 605-688-6819 Srinivas.janaswamy@sdstate.edu</p>	<p>Area of Expertise</p> <p>Srinivas works with the areas of food chemistry; new foods for improving human health; agricultural based novel packaging materials; agricultural products for improving the water quality and enhancing crop yield by controlling weeds.</p>
<p>Sean Kelly <i>SDSU Extension Range Management Field Specialist</i> Winner, SD 605-842-1267 sean.kelly@sdstate.edu</p>	<p>Area of Expertise</p> <p>Sean's expertise can provide assistance with any grassland, range, or management questions.</p>
<p>Padu Krishnan, Ph.D. <i>Professor of Food Science</i> South Dakota State University Brookings, SD 574-440-9215 padmanaban.krishnan@sdstate.edu</p>	<p>Area of Expertise</p> <p>Padu's work encompasses finding enhanced uses for agricultural products, food processing, food analysis, food chemistry and new food product development."</p>
<p>Robin Salverson <i>SDSU Extension Cow Calf Field Specialist</i> Lemmon, SD 605-371-4177 robin.salverson@sdstate.edu</p>	<p>Area of Expertise</p> <p>Robin's main areas of interest include heifer development, reproductive management, and cow/calf nutrition. She also focuses on developing programs for women involved in agriculture including co-coordinator of Annie's Project.</p> <p>Robin also works with sheep production.</p>

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