

# Connecting Research Stations to Area Agricultural Education Programs



NIFA Project  
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## INTRODUCTION

- ❖ Shortage of agriculture graduates (Goecker, Smith, Fernandez, Ali, & Theller, 2015).
- ❖ Need more purposeful connections between science and inquiry in agriculture to fill critical need of future agricultural scientists (NAS, 2009).
- ❖ Agriculture teachers have a lack of confidence and knowledge of the research process as well as lack facilities and equipment (Koehlmoos & Hock, 2018).
- ❖ Limited engagement and participation in FFA Agriscience Fair in KS, NC, and ID.
  - Event “recognizes student researchers studying the application of agricultural scientific principles and emerging technologies in agricultural enterprises” (2015, para. 1).
  - Need for in-service training and support to increase student participation (Koehlmoos & Hock, 2018).
- ❖ The National Research Council (2009) encouraged more collaborations and partnerships between universities and secondary students and teachers.

## FUTURE PLANS & ADVICE

- ❖ Train students to prepare them to conduct research projects.
  - Several have been scheduled or already conducted.
- ❖ Increase the number and quality of research projects competing in each state’s FFA Agriscience Fair by...
  - a) Increase student interest in a career as a FANH scientist
  - b) Increase students completing a FANH research project
  - c) Increase the quality and local relevance of student agriscience research projects
  - d) Assess effectiveness of our model of research center mentorship and engagement.
- ❖ Advice:
  - Be purposeful in introducing your research center staff and researchers to your ag educators
  - Be mindful of the research center time commitments
  - Be flexible, let the relationships to grow organically
  - Find creative ways to reduce the burden of mentorship on research center scientists/staff
  - Identify funding sources to support student research.
  - The introduction of the researchers and SBAE teachers is critical.

## HOW IT WORKS



## TRAININGS

Content Included:

- Introductions
- Role of regional research centers
- Examples of Research
- Agriscience Fair & SAEs
- Discuss possible collaborations

Format:

- 2 hours
- face-to-face and/or video conference

## RESULTS

	KANSAS	IDAHO	NORTH CAROLINA
<b>Research Stations Involved</b>	5	5	6
<b>Scientists/Staff Involved</b>	8	6	15
<b>Ag Teachers Involved</b>	10	10	10

- ❖ Research stations are offering opportunities for students to engage with SAE and the Agriscience Fair.
- ❖ Expectation for future participation and an increase in collaboration because of the relationships built.
- ❖ 28 teachers completed the training.

## COST/RESOURCES

- ❖ Funded through USDA NIFA SPECA grant
- ❖ Trainings cost approximately \$1,500/state to conduct
  - \$900 spent on 25 training notebooks
  - Remaining spent on faculty researcher travel
- ❖ Each teacher paid \$500 for attending initial training and agreeing to engage his/her students with the project.
- ❖ Research scientists were not paid
  - Crucial to find individuals that see value in working with future generations of scientists.

### References:

Goecker, A.D., Smith, E., Fernandez, J.M., Ali, R., & Theller, R.G. (2015). Employment opportunities for college graduates in food, agriculture, renewable natural resources, and the environment. Retrieved from <https://www.purdue.edu/usda/employment/>

Graham, D.L., Arnold, S., & Jayaratne, K.S.U. (2016) Research Priority 6: Vibrant, Resilient Communities. In Roberts, T.G., Harder, A., & Brashers, M.T. (Eds). American Association for Agricultural Education national research agenda: 2016-2020. (pp. 49-56). Gainesville, FL: Department of Agricultural Education and Communication.

Hughes, M., & Barrick, R.K. (1993). A model for agricultural education in public schools. *Journal of Agricultural Education*, 34(3), 59-67. Doi:10.5032/jae.1993.03059

Koehlmoos, E. & Hock, G. (2018). Perceptions of Barriers Limiting FFA Agriscience Fair Participation. Referred paper session presented at the National AAAE Conference, Charleston, SC.

National Academy of Sciences. (2009). *Transforming Agricultural Education for a Changing World*. Washington, DC: National Academies Press.

National Research Council. (2009). *Assessing 21st century skills: Summary of a workshop*. Washington, D.C.: The National Academy Press.