Biological Systems Engineering Science Literacy

Mission:

Scientific literacy is defined by the National Science Foundation as 'the capacity to use scientific knowledge, to identify questions and to draw evidence-based conclusions in order to understand and help make decisions about the natural world and the changes made to it through human activity.' The goal of the IANR Science Literacy Initiative is to foster a society with 'an enhanced capacity, both at the individual and collective levels, to make effective decisions grounded in STEM (Science, Technology, Engineering, and Mathematics) -informed analyses of complex, real-world challenges.'

BSE recognizes that Science Literacy is important for youth, agricultural and natural resources stakeholders, and the general public. Our programs will provide education and outreach to assist Nebraskans in understanding the importance of agriculture and biological systems in their lives and the state's economy. Our research, extension, and education outputs will inform leaders and consumers to make better decisions related to food, fuel, water, landscapes and people.

Overall Objective:

An educated, engaged, and resilient society capable of making informed and strategic decisions related to agricultural and biological systems.

Goals:

The goals of this mission are to:

1. Promote science literacy among all BSE undergraduate and graduate students and empower them to make informed decisions related to agricultural and biological systems.
2. Encourage BSE faculty and students to educate and engage society in order to support the public to interpret, reason, and make decisions about challenging issues related to agriculture and biological systems
3. Provide opportunities for K-12 formal and informal educators to learn about agricultural and biological systems engineering research through professional development trainings and curriculum development.

Methods:

Use agricultural engineering, biological systems engineering, and systems management curricula as vehicles for promoting agricultural, science, and math literacy to our youth, undergraduate and graduate students, and the public.

Examples include:

1. Incorporate science literacy in undergraduate and graduate courses by intentionally teaching students how to make real-world decisions grounded in STEM fundamentals.
2. Participate in non-formal educational experiences such as Sunday with a Scientist, FIRST Robotics, Nebraska State Fair, Bright Lights, Power Drive, FFA State Convention, and Raising Nebraska programs to educate the public on topics and practices related to agricultural and biological systems engineering, and systems management.
3. Provide Extension and outreach programming for producers, policymakers and the public grounded in science literacy principles such as STEM-based decision making.
4. Share research results with the public through popular press in an accessible way that includes an accurate perspective of scientific and engineering research methods.
5. Include citizen science as a data collection method in BSE research projects.

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