

Iowa State University Combined Research and Extension Plan of Work 2023-2024

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I. Plan Overview

1. Executive Summary

Agriculture in the state of Iowa has grown beyond traditional production of crops and livestock to encompass the bioeconomy, life sciences, food sciences, value-added products, environmental sciences, and social sciences. Iowa's world-class endowment of natural resources, our highly skilled and educated people, and our well-developed infrastructure support a diverse and dynamic set of food, feed, fiber, biofuels and bioproducts, environmental, and community endeavors.

Iowa's abundance is astonishing, ranking second nationally (behind California) with cash farm receipts (2020) of \$28.36 billion. This position is the result of Iowa's strong ranking in the production of several commodities. In 2020, Iowa was the nation's largest producer of corn, pork, eggs, and ethanol; second in soybeans; fifth in cattle production; sixth in turkey production; and 11th in dairy. Iowa had 86,104 farms operating on 30,563,878 acres in 2017. Cropland accounts for 87 percent of Iowa's total farm acres (2017). The average farm size in Iowa is 355 acres, while the median farm size is 142 acres (2017).

Iowa had 3,193,079 residents in 2021, ranking 31st among states in total population size. The state's nine metropolitan statistical areas (MSAs) include 22 of its 99 counties and 61 percent of its total population (2020). Iowa's 39 percent non-metropolitan population share is 9th highest among states. Slightly more than one-third (36 percent) of Iowa residents live in a rural territory with fewer than 2,500 inhabitants, ranking 11th among states (2019).

The Hispanic/Latinx population, which includes people of any race, is the largest minority group in Iowa, accounting for 6.8 percent of the population in 2020. The Black or African American population, both Latinx and non-Latinx, is the second-largest minority group with 4.1 percent of residents. The Asian population is third with 2.4 percent (2020). Iowa's non-Latinx white alone population accounts for 82.7 percent of the total population (2020). The poverty rate for individuals in Iowa was 11.2 percent (+/- 0.5%) in 2019, compared to a rate of 12.3 percent (+/- 0.1%) in the United States. Minority students comprised 28.3 percent of PreK-12 public school enrollment in 2021-22, compared to 10.4 percent in 2001-2002.

Continuing demographic changes, globalization, and technological innovations create ongoing opportunities and challenges toward achieving socially beneficial, economically successful, and environmentally sound systems for food, feed, fiber, fuel, and other value-added products. To this end, we have identified six, long-term critical issues that our research projects and extension programs are designed to address:

- Food Production and Agricultural Systems
- Natural Resources and Environmental Stewardship
- Community and Economic Development
- Health, Nutrition, and Well-being
- Human Potential and Youth Development
- Transformative Technology

Research is conducted across most disciplines in agriculture, defined in its broadest sense, from foundational to applied, to make advances in production, to help increase capacity, and to provide an adequate and nutritious food supply. The research expressed in the program areas is the result of cooperation among researchers within and between departments and colleges at all levels of activity. Hatch and Smith-Lever capacity grants provide critical funding for staffing that ultimately allows us to leverage and match other external funding sources. The capacity grants also provide flexibility in programming to better and more quickly meet current and emerging needs not being addressed by other sources of funding. Without these funds, there would be less applied research, less real-world application of research, and less

integration of extension and research work.

II. Merit / Peer Review Process

Iowa's rapidly changing political, social, and economic environment demands a dynamic program development process that incorporates the following:

- self-directed work teams,
- continuous needs assessment to inform program design and implementation,
- public and private partnerships,
- an increased focus on reporting outcomes,
- aggressive funding mechanisms to grow new programs, and
- strong connection with multiple program partners.

Needs Assessment:

ISU Extension and Outreach will continue to follow a multi-faceted needs assessment approach.

- Engagement of key statewide constituencies: Program Directors develop a plan to identify needs working with statewide constituencies. State level governmental agencies and non-governmental organizations will be involved.
- Engagement of the general population: Statewide surveys, listening sessions, and an advisory council will be used to obtain input from Iowans with a broad set of interests and perspectives.
- Engagement of local stakeholders: County extension councils and local stakeholder groups will participate in formal activities to confirm, prioritize, or regionalize needs assessments.

Scientific Peer Review:

Project Proposals: Each project proposal will be endorsed by the department chair and Associate Director of the Experiment Station. The Associate Director will send the proposal to internal ISU peers (typically 3 - 4 faculty) for a thorough review of the scientific merit, linkage with the POW, and the strategic plan of the college. Depending upon the reviews, the project is either approved, modified somewhat to significantly based on review comments, or rejected. Project proposals may be submitted by individuals, small groups, or a large group but must align with one or more programs under the POW.

Program Review Teams:

Ad Hoc teams will be asked to periodically review all programs under the broad themes. The teams will be asked if the research activities, outputs, and outcomes are in alignment with the POW and if there are emerging research programs the Experiment Station should be incorporating into the POW.

III. Stakeholder Input

1. Actions to Seek

Building on the strong tradition of stakeholder engagement with the experiment station and cooperative extension, we will interact with traditional and nontraditional stakeholder groups through normal activities as well as inviting the public's participation in specific surveys, listening sessions, an advisory council, and focus groups.

To respond to the needs of minority and underrepresented groups, ISU Extension and Outreach will continue to increase access by hiring more bilingual staff that are representative of the target population, and continue to seek to have broader, more inclusive representation on advisory councils.

Actions taken to seek stakeholder input include:

- state advisory council with broad demographic representation,

- partnerships with agencies and organizations serving diverse communities,
- targeted invitations to traditional stakeholder groups and individuals,
- targeted invitations to non-traditional stakeholder groups and individuals,
- surveys and/or focus groups of traditional stakeholder groups and individuals,
- surveys and/or focus groups with non-traditional groups and individuals,
- surveys and/or focus groups of the general public, and
- surveys and/or focus groups of selected individuals from the general public.

2. Methods to Identify

The experiment station will use a variety of advisory groups, consisting of key leaders from stakeholder groups. Focus group and survey participants will be identified, using social science statistical methods. Academic program reviews provide external input to departments regarding the relevancy, innovation, and impact of their research enterprise. Thus, on a rotational basis, all seven program areas receive periodic external input.

Throughout a given year, ISU Extension and Outreach collects stakeholder input by a variety of means. Methods include facilitating statewide listening sessions; forming a diverse advisory council; implementation of statewide survey of lowans' educational preferences; and completion of participant questionnaires. Annually at the county extension level, elected county extension council members assess county needs and develop corresponding action plans. Using formal and informal processes, county extension council members make every effort to involve lowans that are a representative reflection of the local population.

Additionally, on October 1, 2021, ISU Extension and Outreach rolled out its first centralized data and reporting system (MyData). MyData enables ISU Extension and Outreach staff and faculty, and county extension partners, to report data such as direct and indirect educational contacts and voluntarily self-reported participant civil rights demographic data. MyData offers real-time data reporting regarding direct and indirect educational outreach efforts with underserved and underrepresented lowan audiences. The ISU Extension and Outreach Leadership Team also funds research projects that seek to understand promising practices to access and work collaboratively with underserved and underrepresented audiences. This allows ISU Extension and Outreach to intentionally work in building a strong Iowa by engaging all lowans in research, education, and extension experiences to address current and real-life challenges.

3. Methods to Collect

Methods for collecting stakeholder input will include the following: Schedule meetings with traditional stakeholder groups and individuals; provide activities specifically for non-traditional groups and individuals, in order to identify community leaders to engage and collect input; provide community listening sessions; conduct targeted and random surveys, including web surveys, mailed surveys, and in-person surveys; record input received during regular contacts by field specialists, regional directors, county staff, and state specialists who work with individual private sector partners; hold meetings with agencies, professional associations and advisory boards, and other various groups across the state; ask stakeholders to serve on advisory boards, leadership councils and work teams to help set program direction; develop innovative programs to reach new audiences, and implement strategies to reach desired outcomes; provide webcasts to share information and new policy direction, and receive input from stakeholders; survey participants at the beginning and end of each training, to assess their training needs and determine how the training series can be improved; utilize self-assessments at the beginning and end of each training to identify specific knowledge and skills participants gained from the training, i.e., effectiveness of the training; conduct follow-up surveys after selected trainings; ISU Extension and Outreach state and field specialists will serve on multiple county and state advisory committees; survey participants at public meetings and follow-up with selected individuals; and collect input through discussions and e-mails with Advisory Board members.

4. How Considered

Stakeholder input will be considered during budget processes; identifying emerging issues; redirecting and planning ISU Extension and Outreach educational programs and experiences; redirecting and planning research programs; implementing staff hiring processes; developing action plans; setting research and ISU Extension and Outreach priorities; focusing programs on local needs and lowan priorities; and measuring and reporting educational program outcomes and impact.