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University of Alaska Fairbanks

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New unit-based needs assessment guidance for IANRE will be part of an onboarding package in process through the evaluation specialist's project for the Western Extension Leadership Development program. A new slate of members was recruited for the statewide advisory council. Leadership changed meeting invitations to be shared with the unit, which has improved connections with the Communications team.

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IANRE has made improvements to making all reasonable efforts in raising awareness about its educational resources to a wide variety of Alaskans. IANRE has increased time in FY21 to Instagram to reach a younger demographic, as insights from our Facebook indicate that the majority of our audience on that platform is in the 40+ range. IANRE also used paid promotion for relevant videos because YouTube has risen to the top of the market in terms of the social media platform with the most reach. IANRE's in-house editor also began submitting content to Alaska Public Media in conjunction with

participate in STEM activities during out-of-school time, and twice as likely to make healthier choices. Participant feedback so far shows the activities are fun and easy to do, and that campers gain valuable knowledge as a result of the at-home 4-H camp experience. One camper said, "The kits were a good way to bring the family together and learn about the environment around us. They were a lot of fun."

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4-H made efforts to keep youth connected with caring adults at a regional level throughout the pandemic.

agronomic and economic standpoint. High value agronomic niche crops such as malting and hull-less barleys and oilseeds like canola, mustards, camelina, and dwarf sunflowers have been shown to have agronomic potential for Alaska (Van Veldhuizen and Knight 2004*, Geier 2006).

*1. Van Veldhuizen, R. M and Knight C. W., 2004. Performance of Agronomic Crop Varieties in Alaska 1978– 2002 AFES Bulletin 111. Agricultural and Forestry Experiment Station, University of Alaska Fairbanks, Fairbanks, AK.

**2 Geier, H. 2006. Canola Quality in Alaska, 2004 and 2005 Harvests. Research Progress Report No. 47. Alaska Agricultural and Forestry Experiment Station, University of Alaska Fairbanks, Fairbanks, AK.

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Average yields for all spring grain and oilseed varieties at the Fairbanks (FBKS) and Palmer (PAL) locations were about equal to the standard test varieties. Significant progress in 2021 included the findings of potential good varieties of two-row barley which were chosen for malting trials in a commercial laboratory. The selected canola reached maturity uniformly. Simulation of weather impacts on small grains grown in Alaska was conducted and results were published in journal.

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Trial results in table 1



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The target audiences are growers of small grains and peony. The research results were delivered in growers meeting "Harvest Wrap Up" on December 7, 2021. There are 11 growers on sites and the other 9 online. After the presentation, questions on cover crops such as legume varieties, nitrogen fixation, weed control were discussed.

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The results were delivered to growers in extension meeting of Harvest Wrap-up. It also delivered to audience who paid a site visit on the experiments.

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There was a Ph.D. student working as summer student in the project.

For 2021 soil and tissue samples, they need to be sent to commercial laboratory to analyze their nutrient concentration. An incubation experiment will be conducted in 2022 at 20°C to determine nutrient release from soil samples taken in fall of 2021.

In 2022, barley will be seeded in the 2 year rotation treatments, barley biomass will be taken in the vegetative growth stage and at grain filling stage to determine N uptake. Soil and biomass samples will be taken in fall of 2022 to continue evaluation of cover crop impact on soil properties and N fixation.

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| Project Director | Organization | Accession Number |
|------------------|--------------------------------|------------------|
| Jenifer McBeath | University of Alaska Fairbanks | 1025528 |



In 2021, *Pythium* sp. was found for the first time in waters and soils on peony farms. It was a major causal agent resulting in the death of peony seedlings and the rootstocks suffered from an unseasonal hard freeze in late spring.

(Objective 4)

In 2021, the number of collaborator farms increased from one in 2020 to six. An effective Botrytis treatment schedule was developed for collaboration peony farms.

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This project will help peony farmers in Alaska to grow healthy plants and produce high quality cut flowers using responsible means of disease control.

Milestones accomplished so far that will benefit peony farmers include:

- 1) Discovery of cold adapted, biological control *Bacillus* spp.
- 2) Discovery of *Pythium* spp. as a possible causal agent of Peony Blight.
- 3) Improvement of Plant Helper treatment plan.

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J.H. McBeath, H. McKee, and

Title of the presentation

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The rhodiola (*Rhodiola* spp) is a perennial, herbaceous, high-valued medicinal plant. The roots of rhodiola are in high demand because it is reputed to be effective as an adaptogen (rhodiola tincture is used as an anti-depressant)

The 16 hour day length was used to ensure appro



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Each cultivar was evaluated

In addition to the highlighted activity in Juneau, the Palmer-based agent offered multiple educational opportunities for Alaskans to learn about food safety and proper preservation methods. Alaska Extension built food industry capacity through offering Certified Food P r

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Alaska, per capita, has one of the fastest-growing population of seniors in the nation, and the state expects the number of seniors to double in the next 30 years. Alaska has more Baby Boomers as a percent of the population than any of the contiguous states, according to a 2015 News-Miner article. All of Alaska is considered

production within this ESS program. This program is designed to train graduate students in actionab ionab

were to visit. The focus group script was designed for the Bureau of Land Management, to use in their Resource Management Plan development process, but it could be applied to other contexts.

And Other Instruments or Equipment: Refinements were made to a survey developed for the Bureau of Land Management. The survey is intended to be used across all BLM-managed areas, and assess outcomes associated with recreat



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