
UAF
UNIVERSITY OF ALASKA FAIRBANKS
AGRICULTURE AND FORESTRY EXPERIMENT STATION
Research Plots
Main road
P
Parking
Farm road or trail
13
Presentation or tour
Kin-Win Trailhead
P
Trunk Rd
7
8
2
3
4
10
11
9
12
6
5
1
P
S Trunk Road
University of Alaska Experimental Farm
S Georgeson Dr

SCHEDULE

9:00
1 Registration and welcome from Jodie Anderson, director of the Institute of Agriculture, Natural Resources and Extension

9:30
2 Small Grain Trials & Cover Crop Efficacy
3 Grain and Oilseed Variety Trials
4 Crop Residue Management Study

10:00
2 Small Grain Trials & Cover Crop Efficacy
3 Grain and Oilseed Variety Trials
4 Crop Residue Management Study

10:30
5 Peony Fertility Study
6 Community and Healing Garden
2 Legume/Grass Forage Study & Winter Pea/Winter Rye Variety Trials

11:00
5 Peony Fertility Study
6 Community and Healing Garden
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11:30
1 Lunch with the researchers: sandwiches provided by Turkey Red, other snacks and drinks available

12:30
7 Revegetating After Bird Vetch Management
8 Alaska Agronomic Crop Seed Increase plots
9 Biochar Soil Application Trial

1:00
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8 Alaska Agronomic Crop Seed Increase plots
9 Biochar Soil Application Trial

1:30
10 Cover Crop Study
11 Herbicide Persistence in Soils
12 Hazelnut Trial & the Future Crops Initiative

2:00
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PROGRAM

1 **Registration & Picnic Area**

2 **Small Grain Trials & Cover Crop Efficacy**
Bob Van Veldhuizen & Mingchu Zhang
Small grain trials work to select a spring wheat variety for Alaska's climate, choose a feed barley cultivar for malting purposes, and finalize a Polish canola variety to be used as an oilseed crop and a rotational crop. The cover crop project evaluates two cover crop mixtures (alfalfa and slender wheatgrass, and clover and perennial ryegrass) for their rotational schedule (two years and four years), biomass production, hay quality, and impact on soil nitrogen and soil health indicators.

2 **Legume/Grass Forage Study & Winter Pea/Winter Rye Variety Trials**
Bob Van Veldhuizen & Mingchu Zhang
To determine the optimal species used as forage and cover crops for Alaska's Interior and Coastal areas, researchers planted four grass species, two legume species and combinations of the two. Plants are seeded in the fall and the spring and evaluated for insect damage. The winter pea studies test four winter peas with and without companion crops for their suitability in Alaska. This study is part of a national network of cover crops.

3 **Small Grain Breeding and Research**
Dorothy O Donnell & Jakir Hasan
Researchers are breeding high-yielding barley, wheat, oats, and canola varieties for the Alaskan farms. They are examining characteristics such as crop adaptability, cold tolerance and disease resistance. The top-performing lines from the variety trial will be distributed to Alaskan farmers for cultivation on their farms.

4 **Crop Residue Management Study**
Caley Gasch
This project evaluates whether cover crops can help break down small grain residue (straw) left in the field after harvest. The excess straw protects soil in the off-season but can interfere with subsequent crops and keep the soil cool and wet. To determine how much of the residue breaks down in a growing season, we compare plots with different residue loads and with or without a mixed-species cover crop and measure soil temperature and water content, carbon and nitrogen pools, and microbial activity.

5 **Peony Fertilization**
Mingchu Zhang
Peony nutrient uptake was studied by taking samples of peony tissues and soil around the state. Using a nutrient mass balance approach (the difference between the amount of nutrients being added and the amount of nutrients found in the plant), researchers could determine the peony nutrient status and recommend a peony fertilizer.

6 **Community and Healing Garden**
Theresa Isaac
The Community Garden and Garden to Heal Program provides community members with opportunities for hands-on practical gardening experience by providing garden plots with initial tilling, water, basic garden tools, educational classes, CES publications, and expertise that includes garden planning, planting tips, soil health and pest management.

7 **Revegetating After Bird Vetch Management**
Gino Graziano
Herbicides vary in their soil persistence, and this project studies how three different herbicides used to manage bird vetch impact the plants planted afterward. To simulate restoring roadsides or other often disturbed areas, yarrow, goldenrod and wild potato were planted to see how they grew and inform on the long-term impacts of herbicide use on bird vetch.

8 **Alaska Agronomic Crop Seed Study**
Bob Van Veldhuizen & Mingchu Zhang
Agronomic crops such as barley, wheat, oats, rye, Polish canola and dwarf oilseed sunflowers have been bred, developed and selected by agronomists specifically for their yields and quality for production in Alaska and northern environments. These crops are used as animal feed for and grain and oilseed product. Crops are planted and maintained yearly to have fresh, high-quality seed stock on hand for potential distribution to the public.

9 **Biochar Soil Application Trial**
Darren McAvoy & Caley Gasch
Biochar is charcoal intended as a soil amendment and is useful for reducing hazardous fuels and storing carbon. This project evaluates how soil responds to applications of locally produced biochar and measures a variety of soil nutrient, carbon and water-holding properties.

10 **Cover Crop Study**
Caley Gasch
This project aims to evaluate which species and mixes of cover crops will grow in Alaska's climate while providing benefits to soil health and crop production. To do so, we monitor growth during the season and measure a long list of soil properties in the fall. This is an Agricultural Research Service (ARS) collaboration.

11 **Herbicide Persistence in Soils**
Gino Graziano
This project assesses how three different herbicides persist in soils and how barley, peas and potatoes tolerate herbicides over four years of growth after herbicide application. The goal of this project is to certify a weed-free straw product and rotate crop species that are sensitive to herbicides.

12 **Hazelnut Trial & the Future Crops Initiative**
Josh Smith
The Future Crops Initiative evaluates hybrid hazelnut varieties developed in North Dakota to test their hardiness in Alaska's growing conditions. This project selects and crosses superior hazelnut plants, working to provide Alaskans with a successful cultivar that can be used in human and livestock food products and examines its potential for use in alley cropping systems.