

**ALASKA STATE LEGISLATURE**  
**SENATE SPECIAL COMMITTEE ON ARCTIC AFFAIRS**

February 13, 2025

1:33 p.m.

**MEMBERS PRESENT**

Senator Cathy Giessel, Chair  
Senator Gary Stevens, Vice Chair  
Senator Bill Wielechowski  
Senator Scott Kawasaki

**MEMBERS ABSENT**

Senator Donald Olson

**OTHER LEGISLATORS PRESENT**

Senator Shelley Hughes

**COMMITTEE CALENDAR**

PRESENTATION(S): FARMING IN THE NORTH: PARTNERING RESEARCH AND  
INDUSTRY FOR ALASKA

- HEARD

**PREVIOUS COMMITTEE ACTION**

No previous action to record

**WITNESS REGISTER**

JODIE ANDERSON, Director  
Institute of Agriculture  
Natural Resources and Extension  
University of Alaska Fairbanks  
Palmer, Alaska

**POSITION STATEMENT:** Co-presented a slideshow titled "Farming in  
the North: Partnering Research and Industry for Alaska."

AMY SEITZ, Policy Director  
Alaska Farm Bureau  
Soldotna, Alaska

**POSITION STATEMENT:** Co-presented a slideshow titled "Farming in  
the North: Partnering Research and Industry for Alaska."

SCOTT MUGRAGE, President  
Alaska Farm Bureau  
Delta Junction, Alaska

**POSITION STATEMENT:** Co-presented a slideshow titled "Farming in the North: Partnering Research and Industry for Alaska."

KEN HOFFMAN, Executive Director  
Alaska Farm Bureau Mat-Su Chapter  
Palmer, Alaska

**POSITION STATEMENT:** Co-presented a slideshow titled "Farming in the North: Partnering Research and Industry for Alaska."

RITA JO SHOULTZ, Secretary/Treasurer  
Alaska Farm Bureau  
Fritz Creek, Alaska

**POSITION STATEMENT:** Co-presented a slideshow titled "Farming in the North: Partnering Research and Industry for Alaska."

#### **ACTION NARRATIVE**

[1:33:54 PM](#)

CHAIR GIESSEL called the Senate Special Committee on Arctic Affairs meeting to order at 1:33 p.m. Present at the call to order were Senators Wielechowski, Kawasaki, and Chair Giessel. Senator Stevens arrived thereafter.

#### **PRESENTATION(S): Farming in the North: Partnering Research and Industry for Alaska**

[1:34:25 PM](#)

CHAIR GIESSEL announced a presentation from the Institute of Agriculture and the Alaska Farm Bureau.

[1:34:58 PM](#)

JODIE ANDERSON, Director, Institute of Agriculture, Natural Resources and Extension, University of Alaska Fairbanks (UAF), Palmer, Alaska, introduced herself. She stated that, in addition to focusing on Alaska's Arctic region, her presentation would include information about agriculture in other areas of the Circumpolar North. She noted that some of the data on her slides is taken from presentations given by researchers at the 2023 Circumpolar Agricultural Conference. She emphasized that the data presented helps to ground the discussion in the circumpolar world. She advanced to slide 2, containing a map highlighting the following Arctic Council member states and observers:

[Original punctuation provided.]

## **Circumpolar Agriculture Includes Alaska**

### **Arctic Council Member States and Observers**

- United States (due to Alaska)
- Canada
- Kingdom of Denmark, incl. Greenland and Faroe Islands
- Iceland
- Norway
- Sweden
- Finland
- Russian Federation

[1:38:14 PM](#)

MS. ANDERSON advanced to slide 3, Circumpolar Food Security Includes Agriculture. Slide 3 contains a portion of a food security index and shows that the United States ranks 13th out of the 113 countries included in the study. She explained that one of the metrics that keeps Alaska from inclusion in the top 10 countries with respect to food security is availability. She pointed out that the US has a food availability rating of 65.1, which she attributed to a nationwide reduction in agricultural research. She noted that three circumpolar countries rank in the top five. She emphasized that arctic agriculture is an important part of a strong, secure food system. She indicated that the Alaska could learn from other regions within the Circumpolar North that are successfully combating many of the issues Alaska faces.

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MS. ANDERSON advanced to slide 4 and discussed commonalities between Alaska, Norway, Iceland, and Finland:

[Original punctuation provided.]

### **We share more than latitudes**

#### **Norway**

- Arctic Norway agriculture
- Short and cool growing season and long winter season.
- 0.8 percent of total land area is cultivated
- Mainly dairy and meat producers

- 5 percent produce horticultural products
- Multi-functional farms.

**Challenges:**

- A decline in the population in many rural municipalities
- The number of farmers has more than halved the last two decades - from 6000 farmers to today's 3000 farmers.
- Centralization

**Iceland**

- Iceland's geographical position limits the assortment of food of plant origin that can be produced
- Huge fish export
- International trade of food is of great importance for Iceland
- But at the same time, we need to protect our agriculture to avoid the effects of international threats to food security

**Finland**

- 98 000 farms (1995)- under 50 000 farms (2020)
- Average farm size 51 hectares (EU 15 ha; USA 180 ha)
- Average farmer age is 53 years
- 86 percent family-run farms
- Almost 70 percent plant production
- Little less than 30 percent livestock (dairy)
- Around 14 percent organic farm

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MS. ANDERSON advanced to slide 5 and discussed agriculture in the Arctic:

[Original punctuation provided.]

**Agriculture in ~~Alaska-Norway~~ the Arctic**

**Challenges and costs**

- Increased winter stress - less snow cover and unstable winters

- Challenging hardening conditions for perennial crops
- More autumn/spring rain
  - Flooding and erosion
  - Soil compaction
  - Harvest failure (cereal, potato, vegetables)
- More weeds, pests, and diseases
- Dry Summers - summer drought, lower yield

**How to ensure resilience in the food production under climate change?**

- Strong need for new resilient plant varieties that are adapted to the new climate conditions - varieties which can produce high quality food for a growing human population

**We need species/cultivars which:**

- Can utilize the prolonged growing season
- Are winter hardy
- Keep photosynthetic activity late summer/autumn
- Have low respiration rate in darkness

**They have to be adapted to the light conditions in the North.**

MS. ANDERSON emphasized that Arctic countries share these unique, region-specific challenges. She stated that, while it is a good place to start, Alaska cannot rely solely on research done in other parts of the US. Instead, the focus should be on Alaska-based research. In addition, the research should extend to other regions of the Circumpolar North in order to solve the larger, shared problems (e.g. sunlight hours).

[1:42:57 PM](#)

MS. ANDERSON advanced to slide 6 and provided an overview of the University of Alaska Fairbanks (UAF) Institute of Agriculture, Natural Resources, and Extension (IANRE):

[Original punctuation provided.]

**UAF Institute of Agriculture, Natural Resources and  
Extension**

**UAF Agricultural and Forestry Experiment Station**  
Where Our Research Happens

- 2,340 acres of farmland
- 2 Experiment Farms
- 1 Botanical Garden
- 7 Research labs
- 11,608 square feet of greenhouse space

### **UAF Cooperative Extension Service**

Our Outreach Efforts Are Statewide

- 350+ Informative publications on everything from planting food to keeping your home safe
- 300+ Classes, taught by experts and offered across the state
- 2200+ Youth served through 4-H programs statewide

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MS. ANDERSON advanced to slide 7, UAF Institute of Agriculture, Natural Resources and Extension, containing a map showing research locations statewide and an infographic to illustrate the institute's work cycle. She explained that the gold dots indicate cooperative extension offices, while the tractors indicate research areas. She pointed out that cooperative extension offices are found throughout the state; however, there are none in the northern region. She explained that Ilisagvik College in Utqiagvik, Alaska has its own cooperative extension office that monitors and works with those on the North Slope.

MS. ANDERSON emphasized that IANRE is community centered. She explained that stakeholders guide the institute's research. IANRE outreach includes teaching that research to stakeholders in order to increase productivity, food safety, etc. While the institute also conducts forestry research, today's presentation focuses on agricultural research.

[1:46:06 PM](#)

MS. ANDERSON advanced to slide 8, UAF Agricultural Research Success, containing various images and graphs. She directed attention to the image on the upper left and explained that these are fresh strawberries from the greenhouse on the UAF campus. This is part of a horticultural research project that evaluates the use of LED light as a high impact, low energy consumption product that increases hothouse plant productivity. She stated that greenhouses provide the ability to grow year-round. She briefly described additional research related to greenhouse lighting and plant productivity. She directed attention to the graph on the bottom left of slide 8 and explained that this includes data for tomato varieties and

various lighting sources. She briefly described the research and noted the increased production and high quality of the tomatoes. She explained that IANRE has switched to LED lighting in all its greenhouses. She said this research provides data on efficient light capture that the institute can share with producers.

[1:46:06 PM](#)

MS. ANDERSON directed attention to the soil image on slide 8. She briefly discussed soil research, which provides data on the soils across Alaska. She emphasized that this data enables producers to sustainably increase production. She briefly discussed soil health, cover crops, and crop rotation. She explained that the use of cover crops helps to maintain soil health. She noted that, typically, there is no direct economic benefit to utilizing cover crops. IANRE is conducting research to find cover crops that also have a market value. These crops would provide long-term soil benefits as well as offering farmers an intermediate financial benefit.

[1:51:40 PM](#)

MS. ANDERSON directed attention to image of a plant with slugs on slide 8. She stated that slugs are a common pest and briefly discussed pest management in the Arctic. She highlighted climate change and pest migration. She emphasized that research must be responsive. She briefly discussed the slug research. She said more pest research is needed and emphasized that this is an increasing concern across the Arctic.

[1:53:04 PM](#)

MS. ANDERSON continued to discuss slide 8. She highlighted images of barley and wheat and briefly discussed plant breeding research. She directed attention to graphs on the far right of slide 8. She explained that these graphs include plant breeding data for barley, wheat, and oat. She briefly described the research, highlighting the "check" varieties for each crop. She explained that the "check" variety represents the standard, and many Alaskan producers use these varieties. In this case, the researcher has utilized plant varieties that have been successful in other areas of the Circumpolar North and, through plant breeding, has successfully increased plant production rates - in some cases to 130-150 percent compared to the "check" varieties. She stated that UAF has successfully hired early career researchers who understand that Alaska has fallen behind on in-state agricultural research. Those researchers are utilizing current technologies and are making great strides toward advancing Alaska's agricultural research.

[1:56:22 PM](#)

CHAIR GIESSEL commented that rye is a hardy grain grown by many Northern European countries; however, she observed that rye is not grown in Alaska.

MS. ANDERSON clarified that rye is grown in Alaska; however, it is not included in the institute's research, as there is not as much demand. She explained the demand for barley, wheat, and oat. Barley is for animal feed and human consumption. Wheat is for human consumption. Oats are for animal feed. She emphasized that these are the three most critical grains, and the research is driven by producers' need. She indicated that rye would be a topic of research in the future.

[1:57:21 PM](#)

MS. ANDERSON advanced to slide 9, containing a variety of agricultural images, and discussed future agricultural research opportunities. She briefly discussed camelina, which is an oil seed similar to canola oil. Two years of trail research have been successful and camelina may perform well in the interior of Alaska. Research is also evaluating the potential for winter camelina, wheat, and barley. She briefly discussed winter planting in Alaska. Research has found success in those crops, allowing for an early harvest followed by a fall planting for the winter cycle. She briefly discussed the potential use of camelina as an oil seed crop. She noted that the infrastructure is lacking but the research is moving forward. She added that this could be a biofuel market opportunity. Camelina oil is also human consumable.

[1:58:08 PM](#)

SENATOR STEVENS joined the meeting.

MS. ANDERSON continued to discuss slide 9. She explained that the institute used food security capital funds to hire a livestock nutritionist. This research will focus on feeding kelp to beef calves, evaluating the supplemental nutrition opportunities (rather than using kelp as a feed replacement). She briefly described this research and the benefits it would offer industry stakeholders. In addition, IANRE is using federal agricultural research funding to conduct a kelp variety trial. This evaluates the environmental characteristics that each variety of kelp requires for optimal growth. This will benefit Alaska's kelp farmers.

[2:01:28 PM](#)

SENATOR KAWASAKI asked for an example of how research is driven by the needs of the private market vs research ideas.

[2:01:54 PM](#)

MS. ANDERSON replied that 80 percent of the research is driven by producers. She offered an example to illustrate how IANRE hears issues from farmers and considers where institute expertise overlies those questions and concerns. The overlap enables the research to address those needs. She acknowledged that there are more questions than there are researchers available to conduct the necessary studies. IANRE is mandated to receive information from stakeholders and all research is directly in support of Alaska. She reiterated that 80 percent of the research is industry/producer driven and 20 percent is driven by researcher interest.

[2:02:57 PM](#)

SENATOR KAWASAKI noted that IANRE depends on federal funding and asked whether there is concern about future funding.

MS. ANDERSON replied that at this point there has been little concern. She explained that much of IANRE funding comes directly from USDA and there has not been much of a funding freeze through USDA.

[2:03:44 PM](#)

SENATOR GIESSEL noted the discussion of kelp and asked whether mariculture comes under agriculture.

MS. ANDERSON replied no. She explained that mariculture falls under the UAF College of Fisheries and Ocean Sciences. She briefly discussed the Alaska Sea Grant Marine Advisory Program (MAP) and explained that UAF is a land grant program. She acknowledged that the institute must do more to communicate with Alaska Sea Grant. She opined that the kelp study is a good example of crossover research and clarified that the researchers for that study are in the UAF College of Fisheries and Ocean Sciences.

[2:05:11 PM](#)

CHAIR GIESSEL directed attention to the image of cows on slide 9. She wondered if they are eating rhubarb.

MS. ANDERSON replied that the cows are eating kale. She explained that the researcher specializes in nutrition through local foods, which producers have requested. She noted that Alaska producers depend on imported supplements and feed.

Switching to local feed and supplementation would reduce input costs, increase productivity, and increase economic viability.

[2:06:11 PM](#)

SENATOR STEVENS quipped that if the cows eat the kale, he will not have to.

MS. ANDERSON laughed and said many people share this sentiment. She offered more detail regarding the practice of feeding kale to cows and explained that the nutritionist is researching combinations of a variety of Alaska grown ingredients that would provide the cows with adequate nutrition.

MS. ANDERSON turned her attention to the image of cover crops on slide 9. She explained that this is an innovative cover crop study evaluating the use of economic crops that also provide a particular service to the soils in Alaska. She briefly highlighted an image of a row of greenhouse tomatoes with LED lighting. She then turned to an image of midnight sunflowers, which are the focus of a multi-year research project. She briefly discussed that project and noted that research projects often result in partnerships with other US-based research centers, as well as those in the Circumpolar North.

[2:09:10 PM](#)

MS. ANDERSON advanced to slide 10 and discussed the importance of research. Slide 10 contains a variety of agriculture images. She directed attention to the image of a family taking part in a potato harvest and shared an anecdote to illustrate the role that research plays in feeding families, increasing production, and engaging future generations of Alaskans with local food and local production. She emphasized that the research is critical and the outcome even more so.

[2:10:30 PM](#)

MS. ANDERSON advanced to slide 11, and discussed program funding, noting that she became director in 2023:

[Original punctuation provided.]

### **Our Funding Success**

#### **Since FY23...**

##### Percent Increases

- 55 percent ICR Funds
- 262 percent Competitive Funds

- 70 percent Capacity Project Participation

MS. ANDERSON explained that capacity funds come from the federal government and are non-competitive. She said there has been a significant amount of excitement regarding the IANRE multi-state collaborative research projects. She emphasized that the institute's success is due to the dedicated effort of its faculty, staff, and researchers despite funding limitations.

[2:11:39 PM](#)

MS. ANDERSON advanced to slide 12, and discussed how the institute is impacted by federal funding and the resulting 1-1 match requirements. Slide 12 contains a bar chart showing state funding versus capacity match for fiscal years (FY) 2020-2025. She explained that the capacity funds require a state funding match. The percentage of IANRE funding that is put towards federal match has increased since FY 2020. She surmised that the percentage will likely be 95 percent for the upcoming fiscal year. She emphasized the importance of adequate state funding, which creates greater investment opportunity and growth potential. She explained that many states include a line-item in the state budget to cover the match.

[2:13:12 PM](#)

MS. ANDERSON advanced to slide 13 and discussed the IANRE FY 26 funding request. Slide 13 contains several images of agriculture and value-added products, as well as graphics for the cooperative extension and 4-H programs. Funding requests include \$200,000 program funding and \$5 million for capital research. She explained that the capital research would include increased food safety research and several scientist and researcher positions. Those funds would also apply to projects that would strengthen Alaska's food system and would increase capacity within the 4-H program. The program funding increase would help the institute develop a research program focused on utilizing fish and mariculture waste as soil amendments in Kodiak. She briefly explained that program, which would utilize existing infrastructure.

[2:14:23 PM](#)

MS. ANDERSON advanced to slide 14 and discussed how IANRE plans to use future funding. She emphasized that this list was compiled from the requests and needs of constituents and stakeholders across the state:

[Original punctuation provided.]

## **Future plans as we get funding**

- Agronomist
- Ag Engineer
- Ag Hydrologist
- Ag Economist
- Floriculturist
- Horticulturist
- Hydroponics/Vertical Growing
- Livestock (non-ruminant)
- Livestock (ruminant)
- Pomologist
- Weed Scientist
- Plant Geneticist (horticulture)

MS. ANDERSON explained that IANRE does not currently have specialists in these areas and is planning to request one position per specialization. The programs can later expand to include more positions. She emphasized that this is what Alaska needs and what Alaskans have asked for. She asserted that this would increase opportunities for Alaskan agriculture and would potentially make Alaska a leader in arctic agricultural research.

[2:16:04 PM](#)

AMY SEITZ, Policy Director, Alaska Farm Bureau, Soldotna, Alaska, introduced herself and began part 2 of the slideshow presentation Farming in the North: Partnering Research and Industry for Alaska. She advanced to slide 2 and briefly outlined the presentation:

[Original punctuation provided.]

### **Overview Alaska Agriculture**

#### **Scott Mugrage**

Mugrage Hay and Cattle

#### **Ken Hoffman**

Mat-Su Microgreens

#### **Rita Jo Shoultz**

Alaska Perfect Peony

[2:16:47 PM](#)

MS. SEITZ advanced to slide 3 and provided a brief history of farming in Alaska:

[Original punctuation provided.]

### **Brief Look - Pre-Statehood Events**

**1700s:** Russians had small agriculture colonies around the state

**1867:** U.S. purchased Alaska

**1888:** Holy Cross missionary producing most of their food needs

**1898:** Alaska Homestead Act (not super successful due to survey requirement); Funding approved for experiment stations and Charles Georgeson came to Alaska

**1906:** Forest Homestead Act - allowing some areas in national forests to be homesteaded

**1919:** Pilgrim Hot Springs orphanage farming

**1920s:** Alaska Railroad campaigns in Midwest for farmers to come to Alaska

**1922:** Alaska Agricultural College and school of Mines opens

**1934:** Matanuska Colony

MS. SEITZ emphasized that there have been many efforts to begin commercial agriculture in Alaska and acknowledged that farming in Alaska is challenging.

[2:20:06 PM](#)

MS. SEITZ advanced to slide 4 and highlighted the benefits and challenges to commercial agriculture in the Arctic. She emphasized that what is a challenge in one instance is often a benefit in another:

[Original punctuation provided.]

### **Benefits and Challenges to Northern Climates**

- Cooler Soil Temperatures
- Long summer daylight hours
- Long, cold, dark winters
- Lighter Parasite/Pest Loads
- Geothermal
- Clean environment/virgin soils
- Limited information/knowledge
- Rich with Resources
- Lack of Infrastructure
- Distance from States - access to markets
- Late frost days - benefit and challenge

MS. SEITZ commented that it would be beneficial to have researchers at the University of Alaska Fairbanks (UAF) to research these issues and help farmers to produce economically viable crops. She said that researchers could also help farmers build off the benefits and find ways to work with the challenges, thus increasing efficiency and productivity. Increasing outputs and decreasing inputs would help keep costs down and would increase the number of successful commercial farms.

[2:22:55 PM](#)

MS. SEITZ advanced to slide 5 and discussed the variety of products grown in Alaska. She emphasized the large number of crops and animal products that farmers can grow. She said that many of those products can be made available year-round with the proper storage and processing. In-state shipment is also possible. She stated that large-scale production is improving. Farmers do the majority of the work, with support from the University of Alaska Fairbanks (UAF) when possible. She emphasized that an understanding of how to grow efficiently in Alaska is key to expanding the state's agricultural industry.

[2:24:30 PM](#)

MS. SEITZ advanced to slide 6, containing a variety of agriculture images, and discussed the potential for research and industry to work together. She highlighted Pilgrim Hot Springs. She noted the high temperature of the hot springs and explained that this creates the potential for year-round production. She briefly explained that Pilgrim Hot Springs began producing crops in the early 1900s and would now like to increase production and feed the local community. Support from UAF is limited. She explained that an agricultural engineer, agricultural economist, and plant breeders are needed; however, these are not available

through UAF at this time. She briefly explained that Pilgrim Hot Springs has begun to increase production utilizing the available geothermal heat. She encouraged committee members to learn more about this project.

MS. SEITZ surmised that there are over 100 hot springs around Alaska and emphasized the potential for growers to utilize the research and expertise available through UAF to increase their production. She emphasized the need for an agricultural engineer, agricultural economist, and for research into the best plant varieties for Alaska, in order for Alaskan farms to be economically viable. She emphasized the importance of economic viability, and the contributions farmers make to Alaska. She reiterated that there is great potential for agricultural growth, which would increase the statewide impact of Alaska's agricultural industry.

[2:28:23 PM](#)

MS. SEITZ asked if anyone recognized the contents of the jar on slide 6.

SENATOR GIESSEL guessed that the jar contained peanuts.

MS. SEITZ said the jar holds soybeans grown on the Kenai Peninsula. She pointed out that many believe soybeans will not grow in Alaska and the success of this small crop illustrates the untapped - and unknown - potential Alaskan agriculture holds. She reiterated that more research and support is needed to increase growth efficiency (i.e. low input, high output).

[2:29:35 PM](#)

MS. SEITZ advanced to slide 7 and provided a snapshot of Alaska Agriculture. Slide 7 includes data from the USDA Census for Agriculture for 1982, 2002, and 2022. She noted that, prior to 2000, there was minimal increase in the number of farms. However, the value of crops sold has increased consistently while the farm acreage has remained roughly the same. She explained that agricultural research played an important role in this shift. After 2000, the number of Alaskan farmers also increased. She opined that this number could grow more quickly if the farmers had the necessary support. She surmised that the growth since 2000 is related to key organizations that have dedicated staff to expanding the agricultural industry. She argued that the more support farmers receive, the more the agricultural industry will continue to grow. She pointed out that the number of families the farms support is increasing.

There are multiple farmers per farm, and thus many farms support multiple families.

[2:31:22 PM](#)

SCOTT MUGRAGE, President, Alaska Farm Bureau, Delta Junction, Alaska, said he is also on the American Farm Bureau board of directors. He provided a brief overview of his work in the Alaska agriculture industry. He said he currently operates a family farm in Delta Junction.

[2:32:08 PM](#)

MR. MUGRAGE advanced to slide 9, containing several images of cattle in winter. He directed attention to the image on the upper left and explained that raising cattle in Alaska is a challenge, particularly in harsh winter conditions. He briefly described the circumstances surrounding the images and highlighted the interplay between environmental conditions, extreme weather conditions, and animal health. He emphasized that extreme winter weather conditions (e.g. temperatures lower than 40 degrees below zero for an extended period) are uncommon and that, in general, farmers can overcome the challenges that arise. He said there is a federal program that assists farmers with these issues. He added that, when animals die, farmers offer the carcasses to trappers who use the meat to trap farm predators. He briefly described the remaining images on slide 9. He explained that a lack of infrastructure is the primary challenge for Alaskan livestock farmers.

[2:34:54 PM](#)

MR. MUGRAGE advanced to slide 10, containing images of fields with crops and fields with cattle. He commented on the potential for an extended season in Alaska. He explained that the images show cover crops and hay. He briefly described the process of utilizing concentrated windrow grazing to extend the livestock grazing season into winter. He highlighted the benefits of this method of regenerative farming, which does not require fuel or human labor and cycles nutrients back into the soil. He noted that this method typically adds 8-12 weeks to the season, barring an early hard freeze. He briefly discussed barley production and grain storage shortfalls. He emphasized that agricultural challenges are not unique to Alaska. He added that federal support provides safety nets for those challenges. He briefly discussed hay production.

[2:38:05 PM](#)

SENATOR STEVENS recalled that, during World War II (WWII), Bells Dairy in Kodiak provided dairy to thousands of servicepeople. He

shared his understanding that the dairy eventually closed due to the high cost of production and the cheaper cost of importing dairy from other states. He opined that infrastructure for in-state hay production and harvest could allow dairies to flourish.

MR. MUGRAGE agreed. He briefly shared about his farm's hay production, noting that he ships hay as far as the Kenai Peninsula. He asserted that Alaskan farms could produce enough hay to fulfill the needs of Alaskan farmers; however, the infrastructure required to transport the hay across state is not available. He emphasized that in some cases (e.g. when shipping to the Kenai Peninsula), the cost to transport the hay is greater than the cost of the hay. He suggested that finishing the railroad spurs to Delta and to Point Mackenzie would provide greater mobility. He pointed out that Alaska is the largest state and inexpensive transport is necessary to move agricultural products across the state. He briefly discussed how a portion of the product could be exported via Port Mackenzie and a portion could be sold to Alaskan farmers. He reiterated and emphasized the need for transportation infrastructure for the inexpensive, in-state transport of agricultural products.

[2:40:37 PM](#)

SENATOR STEVENS agreed. He added that the Port of Anchorage could easily reach locations across Alaska.

MR. MUGRAGE agreed.

[2:40:50 PM](#)

KEN HOFFMAN, Executive Director, Alaska Farm Bureau Mat-Su Chapter, Palmer, Alaska, advanced to slide 10 and provided a brief work and education history. He highlighted his path to becoming a farmer and opening Mat-Su Microgreens.

[2:41:38 PM](#)

MR. HOFFMAN advanced to slide 11, containing images of crops in the field and a market display for fresh microgreens. He continued to share the story of how his farming career began. He highlighted the small size of his farm, which was able to produce 1,000 lbs. of salad greens in its first year. He said the farmer's market price for "spring mix" greens is around \$20/lb., resulting in \$20,000 in sales from less than 1/20th of an acre.

[2:42:58 PM](#)

MR. HOFFMAN advanced to slide 12, containing images of a salad, trays of sprouts, and trays of microgreens. He explained that he later diversified into microgreens, which allowed him to grow year-round. He explained the difference between "sprouts" and "microgreens," and explained that the former is a processed product while the latter is an agricultural product. He described the process of growing microgreens. He shared the process of testing various microgreens and producing those microgreens for home delivery. He explained that customers would order up-front, and he would grow the microgreens to order. Over time, his customer base expanded to include restaurants in Anchorage and Girdwood. He is currently operating out of a 500 square ft. barn and has expanded his crops to include many gourmet products, including edible flowers.

MR. HOFFMAN continued to discuss his microgreens business and emphasized how much he enjoys his work. He stated that microgreens are 40 times more nutrient dense than broccoli and require few inputs. He briefly described how it would be possible to grow microgreens in the Arctic and emphasized the year-round benefit this could provide to those communities.

[2:46:00 PM](#)

MR. HOFFMAN advanced to slide 12, containing images of outdoor berry plants and quarts of strawberries. He described plans to expand into beekeeping and berries. He said that many farmers grow annual crops and a particular crop's success is evident within a single year. He explained that berries and other perennial crops pose a challenge, as it can take up to ten years to show success or failure. He stated that he is passionate enough to try these crops despite the barriers to entry. He asserted that a third party is needed to research these types of crops and determine whether they are viable in Alaska and opined that UAF Institute of Agriculture is the best candidate for that task.

[2:47:21 PM](#)

CHAIR GIESSEL commented that Mr. Hoffman represents the future of farming in Alaska.

[2:47:35 PM](#)

RITA JO SHOULTZ, Secretary/Treasurer, Alaska Farm Bureau, Fritz Creek, Alaska, introduced herself and provided a brief history of her work in the agriculture and horticulture industries. She said she is also the chair for Certified American Grown. She emphasized that Alaskan floriculture is a budding industry with a great deal of potential. She shared that she previously owned

a retail garden center and grew 500 varieties of Alaska-hardy plants.

[2:48:45 PM](#)

MS. SHOULTZ advanced to slide 16, containing an image of a man on an all-terrain vehicle. She explained that this image is of her late husband as he makes plans for planting.

[2:49:00 PM](#)

MS. SHOULTZ advanced to slide 17, containing an image of an excavator preparing a field for planting. She emphasized that soil preparation is a challenge in Alaska, and said weather is a factor.

[2:49:13 PM](#)

MS. SHOULTZ advanced to slides 18-19. Slide 18 contains an image of a young man preparing rows for planting. Slide 19 contains images of a pond. She briefly discussed infrastructure, including the use of Typar and a manmade irrigation pond.

[2:49:34 PM](#)

MS. SHOULTZ advanced to slide 20, containing an image of fields with rows of plants and a high tunnel. She noted that her expertise is related to growing and selling peonies. She said that, though starting the plants is a long process, peonies are easy to grow. Each peony plant should have ten stems, and 2-3 acres can hold roughly 10,000 plants. She explained that peonies are a high-dollar plant, averaging around \$4.10/stem. She emphasized that there is high demand for peonies, and she receives more requests than she can fill. She opined that the market is wide open and the possibilities for Alaskan floriculture are endless. She said shipping costs are nominal, particularly when compared to the shipping cost for fish products. She receives a 68 percent discount when shipping with UPS and Fed Ex. She briefly described the shipping timeline. She surmised that, now that the necessary shipping infrastructure and agreements are in place, they could be used for other floriculture as well. She shared that her son is her business partner, which has allowed her farm to grow. She reiterated that Alaska's floriculture industry is in its infancy and opined that the industry holds a great deal of potential.

[2:52:10 PM](#)

MS. SHOULTZ advanced to slide 21, containing images of the peony cutting and shipping process. She explained that cutting peonies requires expertise. She briefly described the shipping process.

[2:52:49 PM](#)

MS. SHOULTZ advanced to slide 22, containing an image of a tour group, and briefly discussed agritourism.

[2:53:10 PM](#)

MS. SHOULTZ advanced to slide 23, containing an image of group and a field of peonies, and briefly discussed destination weddings as a potential market.

[2:53:19 PM](#)

MS. SHOULTZ advanced to slide 24, containing an image of crew members. She explained that youth often come to work as soon as they are eligible for employment and return year after year.

[2:53:49 PM](#)

SENATOR STEVENS asked about the advantage of growing peonies in Alaska.

MS. SHOULTZ replied that in Alaska, peonies grow through July and August, while the growing season in other locales is limited to April-June. She added that this extended growing season would also apply to other floriculture products.

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MS. SEITZ added that, along with timing, the climate (specifically the cooler weather) and long daylight hours make Alaska peonies larger and more vibrant than those grown in other locales.

[2:55:12 PM](#)

MS. SHOULTZ agreed and reiterated that Alaska peonies are larger and have more saturated color.

[2:55:19 PM](#)

MS. SEITZ concluded the Alaska Farm Bureau's presentation.

[2:55:34 PM](#)

SENATOR KAWASAKI recalled that UAF previously had over 30 agricultural researchers; however, that number has declined over time. He asked for an explanation of the decline, particularly if there is a vibrant potential for agriculture in Alaska. He wondered why more movement has not been made toward achieving that potential.

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MS. ANDERSON confirmed that there were over 30 agricultural researchers as recent as the late 80s and early 90s. She

explained that the attrition was related to retirements and budget concerns. She said UAF is currently rebuilding; however, the attrition drastically decreased the university's research capacity for both agriculture and forestry. She gave a brief overview of those changes and the current limited capacity. She stated that UAF has not regained the positions that it previously lost.

CHAIR GIESSEL thanked the presenters. She commented that the Arctic does not typically bring agriculture to mind; however, she acknowledged that arctic agriculture is possible.

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There being no further business to come before the committee, Chair Giessel adjourned the Senate Special Committee on Arctic Affairs meeting at 2:58 p.m.