JULY 31, 2020 | VOL. 2 ISS. 4

AG Talk Report

UNIVERSITY OF IDAHO, U.S. DEPARTMENT OF AGRICULTURE, AND IDAHO COUNTIES COOPERATING

INSIDE THIS ISSUE

Join us for the next Ag Talk Tuesday—August 4

Kasia Duellman, Extension Seed Potato Specialist

Two sessions of Ag Talk Tuesday remain for the summer—don't miss out! The next Ag Talk Tuesday session will be held on July August 4, from 11:00 AM to 1:00 PM (MT). Registration is required to join this discussion.

To register, please click here or copy and paste this link into your broweser:

https://uidaho.zoom.us/meeting/register/vpAkc-uvqTwpZF4DlEg_ZcN8xYE9ezZSkQ.

Crop Updates kick off each session—listen and contribute to this timely discussion. Featured topics presented by guest speakers follow the crop updates.

Remaining featured topics and guest speakers are listed in the table (right) and a current schedule can be found at https://webpages.uidaho.edu/extension-seed-potato/ATT.html .

Ag Talk Tuesday Featured Topics 2020

August 4	Economics/cost of production/markets forecast	Ben Eborn
	Solid Dairy Manure and Manure Compost Nutrient Survey Results	Lide Chen
August 18	Starling management on dairies	Jason Thomas
	Soil Health Assessment	Linda Schott

University of Idaho Extension

Field projects of Cropping Systems Agronomy in 2020 at the University of Idaho

Xi Liang, Cropping Systems Agronomist

Alfalfa-Grass Cropping Systems
- Alfalfa-grass planting configurations
- Water regimes

Barley-Pulse Cropping Systems
- Diverse cropping systems
- Water regimes

Irrigation Management in BYDV-Infected Wheat
- BYDV infection
- Irrigation levels

Quinoa Agronomy
- Row spacing
- Weed competition

- 2 irrigation treatments:
  - Well-watered: 100% ET throughout the growing season
  - Deficit irrigation: 60% ET during the 2nd and 3rd cuts
- Pipelines: valves on individual nozzles
- Plot dimension: 10 × 20 ft, consisting of 14 rows

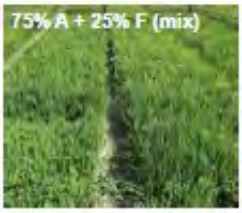
Increasing Yield, Quality, and Economy of Alfalfa Hay through Grass Species Selection and Planting Configuration

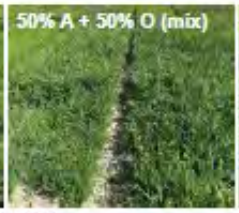
- The project has been established in Oregon, Idaho, Wyoming, and Colorado.
- The field experiment was planted in Aberdeen in late August 2019.

USDA Alfalfa Seed and Alfalfa Forage System Program

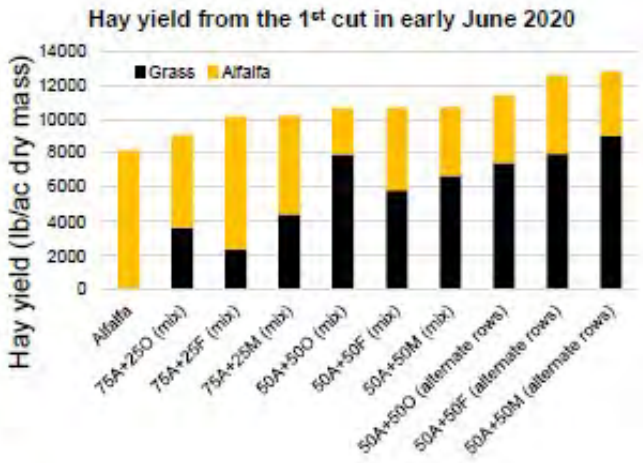
- The 1st cut was on June 9-10, 2020
- Sampling 3 × 3 ft in each plot
- Planning for 3 cuts per season: June, July, and August
- Samples will be analyzed for forage quality

- 10 planting configurations
  - 100 % alfalfa: 20 lb/ac
  - 75% alfalfa+25% grass (mix): alfalfa – 15 lb/ac
    - Orchardgrass (O): 2.5 lb/ac
    - Tall fescue (F): 3 lb/ac
    - Meadow bromegrass (M): 2.5 lb/ac
  - 50% alfalfa+50% grass (mix): alfalfa – 10 lb/ac
    - Orchardgrass: 5 lb/ac
    - Tall fescue: 6 lb/ac
    - Meadow bromegrass: 5 lb/ac
  - 50% alfalfa+50% grass (alternate rows): same seeding rates as 50%+50% mix





Photos were taken on 5/11/2020



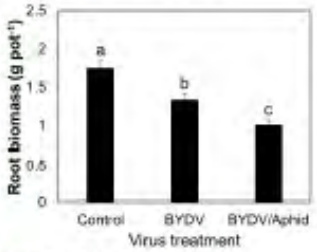
Field Experiments to Incorporate Pulse Crops in Cropping Systems and Assess Soil Health and Plant Water Use Efficiency

- Objective:
  - Evaluate the effect of including pulses on barley production
  - Assess the impact of drought stress on pulse-barley production and soil health
- Experimental design:
  - Located at Aberdeen
  - 2 water regimes: 100 and 50% ET throughout the growing season
  - 7 cropping systems
  - 4 replicates

USDA ARS Pulse Crop Health Initiatives

Treatment	Year 1 (2020)	Year 2 (2021)	Year 3 (2022)	Year 4 (2023)
1. Barley-fallow	Barley	Fallow	Barley	Fallow
2. Lentil-barley rotation	Lentil	Barley	Lentil	Barley
3. Chickpea-barley rotation	Chickpea	Barley	Chickpea	Barley
4. Dry pea-barley rotation	Dry pea	Barley	Dry pea	Barley
5. Lentil-barley intercropping	Lentil-barley	Lentil-barley	Lentil-barley	Lentil-barley
6. Chickpea-barley intercropping	Chickpea-barley	Chickpea-barley	Chickpea-barley	Chickpea-barley
7. Dry pea-barley intercropping	Dry pea-barley	Dry pea-barley	Dry pea-barley	Dry pea-barley

Irrigation Management in *Barley yellow dwarf virus* (BYDV)-Infected Wheat in Southern Idaho



- Barley yellow dwarf is a common disease in cereal crops
- There are limited control practices for BYDV
- The virus significantly reduces root growth (results from a green house experiment).

IDAHO WHEAT

- Objective: to develop irrigation management strategies in BYDV-affected spring and winter wheat
- Experimental design:
  - BYDV treatment: BYDV infected and control
  - Irrigation level: 100, 75, and 50% ET
  - 6 replicates

We are conducting the experiment on spring wheat in Aberdeen this spring. Cages were set up in early April. To guarantee virus infection, aphids were released in cages for 3 times.

USDA NRCS

Typical symptoms of BYD: leaf discoloration in shades of yellow, red or purple from the tip down and from the margin to midrib.

Uninfected control | BYDV infected | BYDV infected

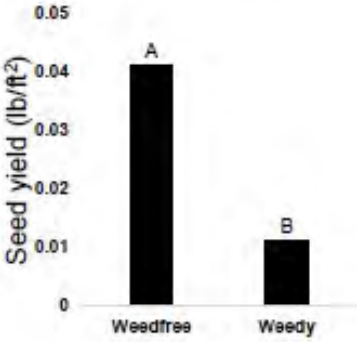
- Irrigation is applied using drip tapes.

Effects of Row Spacing on Quinoa Growth and Weed Pressure

- Irrigated and Dryland:
  - 3 varieties: Cherry vanilla, Ore de Valle, Biobio
  - 3 row spacing: 7, 14, 21 inch
  - Weed pressure: weed-free and weedy
- The experiment was conducted in Tetonia in 2018 and 2019 (results from 2018 in following slides)

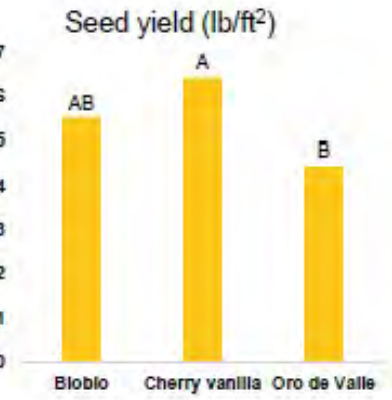
Seed Yield under Dryland Conditions

Effect	*P*-value
Variety (V)	0.004
Row spacing (R)	0.000
V×R	0.051
Weed (W)	<.001
C×W	0.874
R×W	0.401
C×R×W	0.811

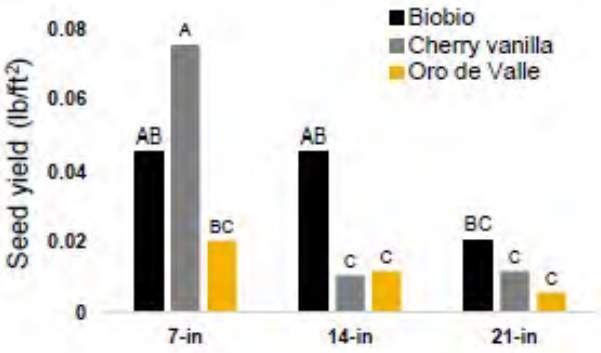


Seed Yield under Irrigated Conditions

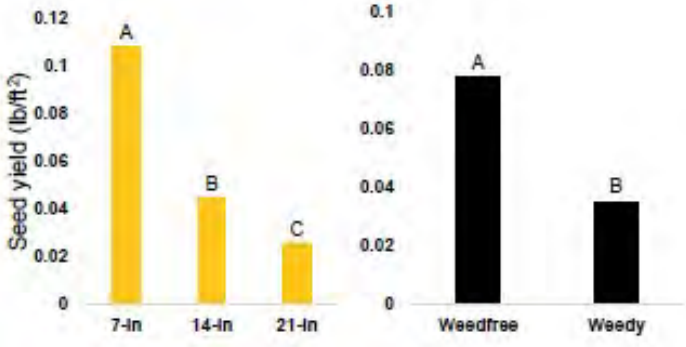
Effect	*P*-value
Variety (V)	0.093
Row spacing (R)	<.001
V×R	0.377
Weed (W)	<.001
C×W	0.484
R×W	0.206
C×R×W	0.492



Seed Yield under Dryland Conditions



Seed Yield under Irrigated Conditions



Summary

- Locations (e.g., Tetonia) with cool summer temperatures (e.g., < 30°C) are suitable for quinoa production.
- Seed yield from plots of narrow row spacing was greater than wide row spacing under both irrigated and dryland conditions.
- Weed competition decreased seed yield under both irrigated and dryland conditions.
- Cherry vanilla and Biobio produced greater seed yield than Oro de Valle.

Elm seed bugs in Butte County

David Callister, Extension Educator Butte County; Brad Stokes, Extension Educator Elmore County; Jason Thomas, Extension Educator Minidoka County

Elm seed bugs, Arocatus melanocephalus, were identified in Butte County on July 9th, 2020. First seen in Idaho in 2009 in Ada and Canyon counties, the elm seed bug is spreading throughout southern Idaho and adjoining states. While they don't pose a risk to humans or crops the number of the bugs that can show up in a yard can cause an ick factor for many residents. Elm seed bugs may stain furniture or carpet if they are physically squished within a residential home. The best practice for removing them from a residence is to suck them up with a shop-vac with some soapy water in the bottom. Pictured at right and lower left are nymphs of the elm seed bug (probably 1st or 2nd instar nymphs). Adults are shown in the lower right image.

Tactics for dealing with elm seed bugs include checking wood piles or other areas for overwintering adults in October. Removing elm seeds from the yard will reduce populations by limiting food sources. Elm Seed Bugs like to overwinter in residential homes. To prevent the insects from sheltering in homes try caulking around cracks in windows and doors to help keep the insects outside. Spraying around the base of houses with a contact insecticide may be acceptable if the infestation is large enough. For more information check out this University of Idaho Extension Publication CIS 1223: https://www.extension.uidaho.edu/publishing/pdf/CIS/CIS1223.pdf.

Monitoring for foliar plant pathogens in Idaho and Washington

Kasia Duellman, Seed Potato Specialist

Once again, the University of Idaho is monitoring airborne pathogens via its spore trap network headed by Dr. James Woodhall, in collaboration with Drs. Juliet Marshall, Phill Wharton, and Kasia Duellman, and with the cooperation and support of several key potato industry players—McCain, Basic American Foods. This spore trap network is comprised of 15 Burkard multi-vial cyclone spore samplers distributed across southern Idaho and two traps positioned in Washington (Skagit County and the PascoColumbia Basin area). Contents of the spore traps are subjected to molecular assays designed to detect various potato, sugarbeet and onion pathogens (with pathogens of small grains to be added in the future). In addition, a yellow bucket trap accompanies all spore traps located in Idaho to track flying insects. The yellow buckets attract many different kinds of flying insects, which land in the water and can't easily get out. Contents of yellow buckets are subjected to molecular assays to detect pathogens that are vectored by insects, namely Potato virus Y (vectored by aphids) and *Candidatus* Liberibacter solanacearum (Lso; vectored by psyllids). To monitor aphid numbers, a second yellow bucket trap is paired with spore traps in eastern Idaho (Tetonia, Rexburg, Idaho Falls, and Blackfoot). You can keep up to date on these monitoring efforts by visiting the following websites:

https://cropalerts.org/

http://www.uidaho.edu/spores

Weeds Update

Pamela J.S. Hutchinson, Potato Cropping Systems Weed Scientist

Fields showing earlier herbicide damage are generally recovering. Injury symptoms are no longer visible in new growth. We've recommended that growers keep an "eye" on tuber development for any possible impact from the earlier foliar damage. We will be speaking with those involved to develop recommendations for preventing injuries in the future. Similar to last year, however, early excess rainfall, not drift or carryover, may be the culprit by moving herbicides down to roots and shoots as well as making herbicides even more "active" than usual.

Aphid monitoring through July 27, 2020 in Idaho

Kasia Duellman, Seed Potato Specialist

The table below indicates the number of aphids captured in yellow bucket traps or suction traps placed adjacent to potato fields in southeast Idaho. Increases in aphid captures from one week to the next at some locations appear to coincide with agronomic events, such as cutting hay or ripening grain. For more information, please see https://cropalerts.org/

Location	6/1-6/8	6/8-6/15	6/15-6/22	6/22-6/29	6/29-7/6	7/6-7/13	7/13-7/20	7/20-7/27
Aberdeen - East	--	--	--	5	7	4	4	11
Aberdeen - North	--	0	2	6	2	2	5	22
Aberdeen - South	--	1	1	11	5	1	4	15
Arco - East (Sunshine)	0	0	2	--	0	1	3	--
Arco - South (Jay's)	0	0	1	4	2	0	1	--
Arco - West (TP3)	0	0	0	8	0	1	2	--
Arco 17	--	0	0	6	0	0	3	--
Arco 26	0	0	0	1	0	0	7	--
Arco 4	--	0	0	4	0	0	7	--
Ashton 1 - South	0	0	1	9	7	6	9	19
Ashton 2 - Central	0	0	0	2	10	2	1	1
Ashton 3 - East	0	0	0	1	4	5	--	9
Ashton 4 - Northeast	0	0	2	1	1	5	12	36
Ashton 5 - West (bucket)	4	4	0	7	5	1	2	2
Ashton 5 - West (suction trap)	1	1	0	0	0	1	0	--
Blackfoot	4	0	5	12	11	0	5	17
Dietrich - East Home 11	0	0	0	1	0	0	0	--
Dietrich - East JV 24	1	0	--	2	0	0	1	--
Dietrich - East Home 3	3	0	0	1	--	0	0	--
Dietrich - East HVW3	--	0	--	--	0	--	--	--
Driggs 1 - S7	--	--	0	0	0	1	7	--
Driggs 2 - field 17	--	--	0	0	0	0	10	--
Driggs 3 (D7)	--	--	2	5	0	0	85	33
Driggs 4 (D2)	--	--	3	11	12	12	16	20
Driggs 5 (D13)	--	--	0	6	4	4	16	19
Grace 1 - east	0	1	4	7	22	8	5	--
Grace 2 - near suction trap	1	1	0	1	6	3	2	--
Grace 2 - suction trap	--	--	0	1	1	0	3	--
Hidden Valley	0	0	0	--	--	0	0	--
Holbrook 1 (bucket 1)	--	--	1	5	2	0	1	3
Holbrook 2 (suction 1)	--	--	0	0	0	0	0	1
Holbrook 3 (bucket 2)	--	--	0	0	5	0	0	3
Holbrook 4 (suction2)	--	--	0	0	0	0	2	0
Idaho Falls	1	3	9	5	15	4	7	9
Rexburg	0	1	6	7	10	2	1	2
Richfield - North	0	0	0	--	0	--	--	--
Richfield R6	--	0	--	0	0	0	0	--
Tetonia Back (by spore trap)	0	2	1	1	3	1	0	8
Tetonia Front (by suction trap)	1	0	2	4	3	2	11	17
Tetonia Front (suction trap)	0	0	0	10	26	27	38	--

AG Talk Report

UPCOMING EVENTS

AG TALK TUESDAY

August 4 and 18| 11:00 AM

Ag Talk Tuesday session, live and online.

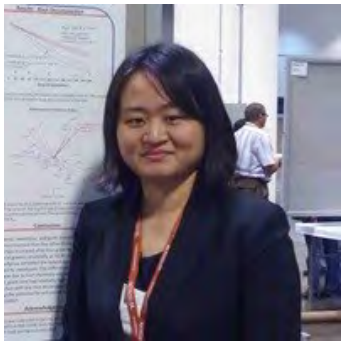
MORE EVENTS CAN BE FOUND AT:

HTTPS://WWW.UIDAHO.EDU/EXTENSION/NEWS/CALENDAR

Idaho Falls Research & Extension Center 1776 Science Center Drive Idaho Falls, ID 83401 (208) 529-8376
Aberdeen REC 208-397-4181
Kimberly REC 208-423-4691
Parma REC 208-722-6708
Entomology, Plant Pathology & Nematology 208-885-3776
Plant Sciences 208-885-2122
Soil and Water Systems 208-885-0111

Our featured speakers in July

Xi Liang, Associate Professor and Cropping Systems Agronomist based at the Aberdeen Research and Extension Center talked about her research projects for 2020 during the Ag Talk Tuesday session held on July 7.



Dean Michael Parrella, College of Agriculture and Life Sciences at the University of Idaho, shared an enlightening update on CALS, the budget, and moving forward in these times during the July 21 Ag Talk Tuesday session.

CONTACT US

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