

2021 DFC Potato Variety Trials

led by Chris Homanics and Amy Garrett

Variety	Labels	Organic?	Class	Source
Belmonda	BE	unavailable	Y/Y	Maine Potato Lady
Carola	CL	Yes	Y/Y	Carter Farms
German Butterball	GB	Yes	Y/Y	Carter Farms
MonDak Gold	MG	Yes	R/Y	Carter Farms
Adirondack Red	ADR	Yes	R/R	Maine Potato Lady
Dakota Rose	DR	Yes	R/W	Carter Farms
Red Pontiac	RP	unavailable	R/W	Maine Potato Lady
Red Endeavor	RE	Yes	R/W	Carter Farms
French Fingerling	FF	Yes	R/Y, Fingerling	Carter Farms
Adirondack Blue	ADB	Yes	P/P	Carter Farms

Participant Requirements:

- Need to have successfully grown potatoes prior to 2021
- First priority for the seed we have will be given to trial hosts who have participated in prior DFC trials and submitted data sheets after harvest.

Protocol:

Preparation

- Full Participants, growing all 10 varieties, need at least 3000 sqft or 600 row ft to participate and grow three replications of each variety (10 potatoes per replication x 10 varieties x 3 reps/variety)
- Partial Participants, growing 3-7 varieties will need 300 sqft per variety or 60 row ft per variety
- What is a replication? One replication is 60-100 sqft (e.g. 20 row ft with a minimum of 3' between rows, with 10 tubers planted 2' apart). *Between-row spacing should be a minimum of 3'.*

Planting

- Plant three replications of each variety within the trial plot.

- Randomize the replication within your plot. This can be as simple as writing all the field tags and mixing up or by using an online random number generator between 1 and 30
- Replication (rep) = 20 row ft of one variety is 10 tubers spaced 2 ft apart in a furrow and uniformly covered with several inches of soil. Whatever methods you use should be applied uniformly to each rep.
- Plant the entire plot on the same day (record the date), sometime between mid-April and mid-May, *as soon as* your site conditions allow.
- Label each plot with a tag and make a field plot map day of planting in case the tags get lost or the variety names aren't legible at harvest time. (see example plot map below)
- Between-row spacing should be a minimum of 3', but may vary based upon your equipment or tractor width. At Oak Creek it was 5' between rows because of the tractor width there.

Example of plot map

Notes: Avoid planting next to the grassy edge of your plot by planting border rows *if possible*. Border rows could be other potatoes or another crop planted at same in-row (2') and between-row (at least 3') Your plot map could be made with a pencil and paper. It is just a reference in case your stakes disappear, and to assist with data collection at time of harvest.

Border row	Border row						Border row
	RP - 1	GB - 1	DE - 2	CI - 2	CL - 3	PG - 3	
	CI - 1	CB - 2	BE - 2	PG - 2	PC - 2	FF - 3	
	PG - 1	CL - 1	FF - 2	RP - 2	CB - 3	GB - 3	
	CB - 1	DE - 1	PC - 1	BE - 3	DE - 3	PC - 3	
	BE - 1	FF - 1	CL - 2	GB - 2	RP - 3	CI - 3	
	Border row						

Replications

10 tubers are planted 2' apart (20 row feet) for each replication
 60 row feet needed for each of the 10 varieties (total 600 row ft)
 3 reps for each variety - randomized within your plot



Management

- Hill potato plot when they are about 1 ft tall, later varieties will probably need a second hilling
- Do not irrigate. Plant early when there is still moisture in the soil. But, if you are planting later in the season and/or your soil is very dry, one long irrigation after planting is acceptable, but none after that because we are assessing what varieties are suitable for dry farming.
- Harvest as soon as the plant is mostly yellow/brown and has lost most of its green. This is a qualitative trait but the potato skins should look finished and usually won't tear very easily. During a season with early sustained rainy period, you may need to harvest certain varieties early while they are still green or partially green. If you need to do this, please note that fact.
- We are available to answer questions you may have, so don't hesitate to ask.

Data Collection Options

Quantitative – similar to what we have been doing the past couple of years

We will provide you with a sheet to record the following data for each variety replication:

- Planting date
- Hilling date(s)
- Harvest date
- Number of tubers in each replication
- Number of plants remaining day of harvest
- Total Yield (lbs) - Use a scale accurate to within 0.1 lbs. Please weigh within a day of harvest and knock soil off of tubers.
- Unmarketable tubers (lbs) - Record the weight of the tubers included in your 'total yield' you could not market - too small, serious defects, disease, insect damage, etc.
- Field notes - record general observations including pests (e.g. aphids, flea beetles, wireworm, nematodes, voles and other field rodents) and diseases (e.g. scab, early blight, late blight, mineral deficiencies, scab, rhizoctonia, virus symptoms, flowers/berries observed?). We can help you with this part especially if you can take pictures of the issue.

Qualitative – use the SeedLinked app to rate varieties (scale 1-5) in various categories such as germination, vigor, yield, flavor, etc. This data would be compared to the quantitative data collected at OSU managed sites and could save farmer participants time. SeedLinked developers and our delicata trial last year showed a strong correlation with SeedLinked yield ratings and quantitative yield data.

We can discuss and clarify details when we meet!

Contact Amy Garrett (amy.garrett@oregonstate.edu) if with any questions.