

Farmer-Led Research 2019: Fall Lettuce Variety Trial



COMMUNITY SEED PRODUCTION & BREEDING

Farmer-Researchers

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5	David Mazur-Goulet and Lise-Anne Léveillé	BeetBox Cooperative Farm	Ottawa (East)	david@beetbox.ca; lise-anne@beetbox.ca
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EFAO Contact

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Background

The fall slot for lettuce is challenging, as the lettuce has to handle both the heat of the summer and the cold of the fall with all the moisture and temperature variability that is characteristic this time of year. To compare different varieties and their performance in this seasonal niche, a group of nine growers from across the province selected lettuce varieties of interest. Each grower then chose a subset of these varieties, each committing to plant two replicates of each variety in their last two plantings of lettuce.

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Varieties Included

The 2019 Farmer-led Research Fall Lettuce Variety Trial includes 11 varieties of lettuce, all of which will be transplanted in the field in a replicated trial with 2 replicates each at the last 2 plantings. Each grower chose 4+ varieties from the list of 11 varieties of lettuce.

The seed pack sheet will list the varieties included for each farm, with “code names” only to ensure a **blind trial**. To reduce observation and measurement bias and keep the trial as “blind” as possible, please don’t go back to the variety list mid-season to remind yourself of what varieties you committed to.

Full Variety List for 2019

Variety	Replicated Trial	Type	Colour	Source	Certification	Planted at
Adriana	Yes	Butterhead	Green	Johnny's	No	All
Starfighter	Yes	Leaf	Green	Johnny's	No	AK, AS, HS, DM-G, LM, EL
Lovelock	Yes	Batavian/Leaf	Green/Red	High Mowing	Organic	AK, AS, HM, DM-G, LM, EL, AM
Magenta	Yes	Batavian	Green/Red	High Mowing	Organic	AK, AS, JK, DM-G, LM, EL
Speckled Amish	Yes	Butterhead	Green	Fedco	Organic	AS, HS, JK, HM, EL, AM
Winter Wonderland	Yes	Romaine	Green	Fedco	Organic	HS, HM, DM-G and EL
Ruby Sky	Yes	Leaf	Red	Johnny's	No	AS, HM, LM, EL, AM
Spretnak	Yes	Mini Romaine	Green	High Mowing	Organic	AS, LM, EL
Green Star	Yes	Leaf	Green	High Mowing	Organic	AK, EL
Newham	Yes	Mini Romaine	Green	High Mowing	Organic	AS, EL, AM

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Aerostar	Yes	Romain	Green	High Mowing	Organic	AK, HS, JK, EL COMMUNITY
Galisse	No	Butterhead	Green	Fedco	Not in catalogue	HM
Nancy	No	Butterhead	Green	Fedco	Not in catalogue	HM
Redina	No	Leaf	Red	Fedco	Not in catalogue	HM
Salanova Red Sweet Crisp	No	Easy leaf/leaf	Red	Johnny's	NOP compliant	AM
Salanova Red Oakleaf	No	Easy leaf/leaf	Red	Johnny's	NOP compliant	AM
Salanova Red Butter	No	Easy leaf/leaf	Red	Johnny's	NOP compliant	AM

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Planting and Cultivation Recommendations

The table below provides *suggestions* based on practices discussed in the group. Use the suggestions if they make sense for your farm. The trial should be grown as you would normally grow lettuce in the field for fall harvest, including your normal bed and row spacing.

Please record your planting dates, spacing, and other cultivation practices on the worksheet at the end of this document.

Plot size per variety	12+ heads per section 2 sections per planting = 48+ heads total for the trial.
Row and bed spacing	In-row: 12", Between-row: 12-14"
Seeding dates	July - mid August
Transplanting dates	August - early September
Days to harvest	45-55

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How to Arrange the Trial

The trial arrangement is flexible as long as you plant at least 2 sections of at least 12 heads per section (and you can plant more lettuce if you have space available).

Please observe these best practices to the extent possible:

- For **each planting, create two replicate blocks** of your trial space by dividing the space in half.
- Plots may be distributed in multiple side-by-side beds or planted in one bed (see examples below)
 - In each half, plant the varieties in a random order, either by drawing variety names out of a hat, etc. or randomly choosing the flat to transplant next.
 - Each of the 2 replicate sections should have a blocks of 12-20 heads of each variety; the order of the planting will be different in each section.
- **Avoid the edge of the field** and the **end of the bed** when finding a place for the trial.
- Avoid areas with known soil, shade or irrigation differences that would affect some plots more than others. That is, try to plant your trial plot in a homogenous area in your field.
- If possible, plant the trial in a spot where it has the **same crop on either side of it**.
- Use **stakes to label** the plots AND **draw a field map** showing the order and location of varieties. This serves as a backup in case the stakes get lost! Feel free to snap a photo of the layout and send to Sarah, which is a third back-up!

Examples

Example 1: Layout with 2 replicate blocks of 5 varieties (12-20 heads/variety) down a single row.

Note: each variety is randomly assigned as section in each replicate block.

Replicate block 1					Replicate block 2				
1-L5	1-L2	1-L12	1-L4	1-L7	2-L4	2-L7	2-L5	2-L2	2-L12

Example 2: Layout with 2 replicate blocks of 5 varieties (12-20 heads/variety) planted across multiple rows. Note: each variety is randomly assigned as section in each replicate block.

Replicate block 1		Replicate block 2	
1-L8	1-L3	2-L12	2-L1
1-L1	1-L12	2-L8	2-L2
1-L2	Other or empty	2-L3	Other or empty

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Evaluation

On-farm evaluation will consist of rating the varieties according to several traits and writing your observations. We ask that you evaluate the lettuce at a few points during the season, as outlined below.

Evaluation Forms

Crop Management Records - once per season

Growing Season Rankings - once per planting

Growing Season Evaluation - once per week

Weather Data - once per season

End-of-Season Questions - once per season

Other measurements

Maximum and minimum daily temperatures if possible on your farm (i.e. if you have a weather station or are close to an Environmental Canada weather station). Alternatively, make notes of daily max and min for unusually hot/cold temperatures.

Research Calendar

Time	Task	Action Item
Mid August	Transplanting	Sarah will check in
Mid October	Harvest	Sarah will check in

Deadline for data, progress report and photo submission

October 31, 2019

Memorandum of Understanding

Please refer to efao.ca/research-mou for Memorandum of Understanding.

Acknowledgements

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Funding

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The Robert and Moira Ideas Foundation,
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Crop Management Records

Farm Name: _____

Contact person(s): _____

Please use the back of this page for other notes, and to draw a field map. If you have already filled out this information on the Google Doc, then you don't need to record again here. Please indicate with a "G", etc.

Data	Planting 1 (second last or season)	Planting 2 (last or season)
Seeding Date		
Notes on seedlings		
Transplant Date		
# Heads planted per replicate section		
In-row spacing		
Between-row spacing		
Configuration (# rows/bed, e.g. 3 rows/40" bed)		
Fertilizer applications (rate, amount, and date)		
Other products used (rate, amount, purpose, date)		

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End-of-Season Questions

1. Which were your favourite varieties in this trial and why?

2. Which were your least favourite varieties in this trial and why?

3. How many years have you grown lettuce commercially?

4. How do you normally market your lettuce? (*Circle all that apply*)
a.) CSA b.) farmers' market c.) farm stand d.) wholesale e.) other - please describe

5. What were the biggest challenges for lettuce production in this (2019) growing season?
For example, weather patterns, diseases, insect pests, etc...

6. Are you currently growing a variety *that was not included in this trial* that you prefer to anything included here? Please share variety name, if you are willing. What makes it better?

7. Other comments