

# Comfrey for Saskatoon and Black Currant



COMMUNITY COVER CROPS SOIL HEALTH

Farmer-Researcher(s):

Patricia Kozowyk, Babalink Farm (West)

Ivan Chan, Eden in Season (West)

Arthur Churchyard, Eramosa Currents (West)

EFAO Contact

Sarah Hargreaves, [sarah@efao.ca](mailto:sarah@efao.ca), 226-582-0626 (chat and textable)

This document outlines the steps that Pat, Ivan and Arthur will follow to execute their research project, *Comfrey for Saskatoon and Black Currant*, including design, execution, data collection and data sharing. It also serves as a Memorandum of Understanding between the farmers and EFAO.

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## Background

To assess the benefits of comfrey as a companion, Pat established a randomized, replicated comparison of saskatoon bushes with and without comfrey in 2017. In 2018, Ivan and Arthur established a similar design for black currant. This protocol serves as an update to their previous work. For more information, please refer to:

[2017 Protocol](#)

[2017 Report](#)

[2018 Protocol](#)

[2018 Report](#)

## Hypothesis

Comfrey companion planting will improve fruit yield and leaf tissue phosphorus levels by the third year.

## Measurements

All measurements should be entered in this linked spreadsheet.

Evaluation Forms (forms linked in separate file)

General Observations

Soil Moisture Measurements

Fruit Production

Woody Measurements

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## Fruit Quality

Pat’s original hypothesis is that she would see differences from the comfrey in the third year (2019). For this reason, Pat will focus on fruit quality measurements this year.

- Lab assessment

## Leaf analysis

- 200 g leave tissue is needed for leaf tissue analysis. Leaves should be sampled after fruit set (SGS Labs)

To get a sense of how many leaves it takes to get to 200 g - and whether this can be done without harming the health of the bushes, Pat will sample and weigh leaves in 2019. If it is possible to collect, she will send leaves for analysis in 2019

Arthur and Ivan will wait until the 3rd year (2020), if there are enough leaves to take for sampling while still leaving 75% of the leaves on the plant. If there aren’t enough leaves to take ~ 100 while still leaving 75% of leaves on the bushes, they will wait until 2021 or 2022 to sample. To assess # of leaves in future years, Arthur and Ivan will count # of leaves in 2019 and assume 30% more leaves the following year.

## Woody Measurements

Growers will take woody measurements, as desired to, as a covariate that also affects shrub size. Possible measurements include:

### Longest new shoot

- Measuring longest new shoots is hard to keep track of the shoot, but doesn’t account for multiple shoots, etc.

### General categorization

- Categorization for biomass (small, medium, large) with range of shoots, diameter, height

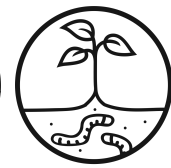
### Caliper measurements

## Research Expense Budget

Prices are approximate; NA or in-kind for any materials that you already own or have access to. Please indicate if you intend to give any of the supplies to EFAO’s Tool Library for others to use after you are finished with them.

Material	Quantity	Unit	Total Cost	EFAO’s Tool Library (Y/N)
Leaf tissue testing	8	\$30.50 +postage	~ \$250	N

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## Research Calendar

Time	Task	Action Item
Mid -March	Take photos of comfrey emergence	Sarah will check-in with group.
Mid-April	Observe comfrey growth and currant blooming, soil moisture	Sarah will check-in with group. Sarah will check-in with group.
Late June	Saskatoon harvest, soil moisture	Sarah will check-in with group.
July?	Observe comfrey blooming and take moisture	Sarah will check-in with group.
Late July	Black currant harvest, record observations, soil moisture	Sarah will check-in with group.
Mid-August	Photos and moisture	Sarah will check-in with group.
October	Observe senescence and frost dates	Sarah will check-in with group.

Deadline for data, progress report and photo submission

October 1, 2019

### Memorandum of Understanding

Please refer to [efao.ca/research-mou](http://efao.ca/research-mou) for Memorandum of Understanding.

### Acknowledgements

We thank members of the Advisory Panel, Jason Hayes, Matt Jones, Ken Laing, Annie Richard, Darrell Roes, Steven Wolgram and Dr. Ralph Martin, for their thoughtful input that helped guide the design of this trial.

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## Funding

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The Robert and Moira Ideas Foundation,  
a fund within the

Ontario  
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Fondation Trillium  
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An agency of the Government of Ontario  
Un organisme du gouvernement de l'Ontario



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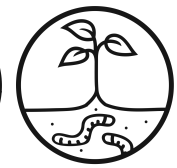
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## General Observations

Farm Name: \_\_\_\_\_

*How big is the comfrey? What's the size of the comfrey's mulching area?*

*How is the comfrey growing? Is it bullying the shrubs?*

*How did you manage the comfrey? Knock down, chop, leave?*

*What happened after you did this? How did the comfrey respond?*

*Other observations or comments*

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## Soil Moisture Measurements

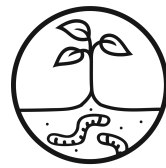
Farm Name: \_\_\_\_\_

Page \_\_\_\_ of \_\_\_\_ (print off more sheets as needed)

Try to take soil moisture at 5cm and 15cm **bimonthly** throughout the season, or if/when there's a particularly wet or dry period.

Date	Plot Code	Depth	Soil moisture	Comment

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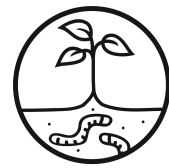


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Fruit Quality Pat's Farm

Picking	Date	Plot Code	# Plants	LB	OZ	% Brix
1						
1						
1						
1						
1						
1						
1						
1						
1						
2						
2						
2						
2						
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## Fruit Quality

Ivan and Arthur's Farms

Picking	Date	Plot Code	# Plants	LB	OZ	% Brix
1						
1						
1						
1						
1						
1						
2						
2						
2						
2						
2						
2						
3						
3						
3						
3						
3						
3						



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## Woody Measurements

Farm Name: \_\_\_\_\_

Measurement taken: \_\_\_\_\_

Record plot code, replicate, plant # (if applicable)  
 Measurements could include plant height/longest new shoot, # new shoots, width, categorization into small, medium large.

Date					

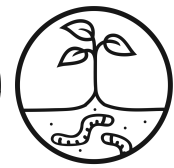
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Woody Measurements - Caliper measurements of shoots

Farm Name: \_\_\_\_\_

Record plot code, replicate, plant # (if applicable)

Date	

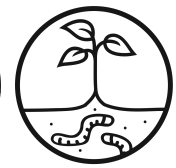
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