

GROWING ORGANIC



prairie organic
grain initiative

MOA NEWSLETTER

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2018 Intercropping Workshop, Brandon

The field season is wrapping up, and now the conference season is well underway. There have been a number of conferences and workshops over the last couple weeks, and more to come as winter settles in. This is a great time to learn new practices, or gain new ideas to incorporate into your planning for the coming growing seasons. The November edition of **Growing Organic** will describe why planning today will set you up for success in not only 2019, but 2020 and beyond. This issue will also highlight new research, provincial farm clubs and upcoming events.

The 2017 Organic Agriculture in the Prairies Report has been published!

Report by the Canada Organic Trade Association

TABLE 1 | ORGANIC ACREAGE IN THE PRAIRIES BY CATEGORY AND PROVINCE, 2017

	AB	SK	MB	Prairie Total	Cdn Total	% Cdn Total
Field crops	233,600	549,900	56,200	839,700	1,021,700	82%
Cereals	154,100	379,000	41,600	574,700	653,600	88%
Pulses	61,400	75,500	4,100	141,000	151,000	93%
Oilseeds	6,400	79,700	4,500	90,700	140,500	65%
Other field crops*	11,600	15,600	6,000	33,200	76,600	43%
Pasture, forage and natural areas	306,300	607,900	59,100	973,400	2,043,700	48%
Fruits and vegetables	2,100	1,900	2,400	6,400	68,600	9%
Uncategorized	1,700	2,600	200	4,500	16,800	27%
TOTAL	543,700	1,162,300	117,900	1,824,000	3,150,800	58%

* Other field crops include amaranth, borage, buckwheat, corn, hemp and quinoa, as well as field crops with no details listed.

Manitoba:

- 117000 organic acres in 2017 (28% increase from 2015)
- added 40 organic operations between 2014 and 2017. (220 total)
- Between 2016 and 2017 Manitoba added 20 organic processors from 50 to 70.
- 1533% increase in organic hemp

Prairies:

- 28% increase in organic acreage ('15-'17)
- 1.8 million organic acres in 2017
- Produce 82% of organic field crops

For full report go to: <https://gallery.mailchimp.com/1307bb1d5a80520d17a24edcf/files/ed580c11-6afc-43c7-975f-c2f6b471e162/>
[Org_Ag Prairies 2017 Data_FINALv2_1 compressed.pdf](#)

Planning for Success in 2020

Written by: Elizabeth Karpinchik P.Ag CCA

Field work for 2018 is complete, green manures have been ploughed, weeds have set seed. 2019 just needs seed in the ground, 2020 we can plan for success.

Take the time to walk your fields after harvest and before seeding, what is green? What is growing? Will those species be a problem next spring? Can we time our seeding to compete with those weeds? **Which crop in our rotation will be the most competitive? (see below)**

Choices made in 2019 will have a major effect on the 2020 crop.

You have to set yourself up for success. To produce a high value, high nitrogen using crop

you need to prepare. Choose a green manure that will give you the maximum nitrogen benefit. You will need to source inoculant for your legume as well. If you don't inoculate your seed, the legume will not provide any nitrogen, Adequate rates and sources are specific for each species. Weed management will be critical during your green manure, ensure you are targeting your hardest to control weeds at their most susceptible timing.

Planning a crop rotation involves good agronomics, economics, and marketing. Having a dynamic plan that can change with conditions is a challenge, but understanding the factors that are in your control can help manage the tough choices.

What makes a crop type competitive?

There are a number of factors that contribute to the competitive ability of a crop.

Some of the factors to consider include quick germination and rooting, quick growth and ground cover, high biomass production, tall growth, early flowering and maturity, competitive rooting systems and disease resistance (COG). Choosing crops, or varieties that possess these traits will provide an early season advantage against weeds. The following table from the Organic Field Crop Handbook describes the competitive ability of various crop types.



Oats cover ground and close canopy quickly



Dry beans are slower growing and don't close canopy until later in season. Less competitive

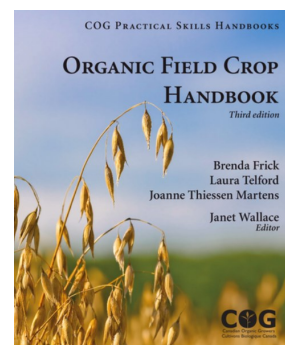
Photo credit: Katherine Stanley. Carman June 2018

Perennial Crops	Brome, alfalfa, crested wheat grass	Most Competitive ↓ Least Competitive
Winter Crops	Sweetclover Fall rye Winter triticale Winter wheat	
Spring Cereals	Spring spelt Barley Spring rye Spring wheat Durum wheat Oats	
Other spring-seeded crops	Field peas Potatoes Soybeans Flax Lentils Dry beans	

Based on information from Frick (1998) in Organic Field Crop Handbook—third edition (2017)

Resources to help with Crop Rotation Planning

The **Organic Field Crop Handbook (third edition, 2017)** provides a lot of useful information to help you make the best decisions for your cropping system. The handbook includes a whole farm planning worksheet which is a great tool to guide you in crop rotation planning. The organic field crop handbook is available at: <https://cog-shop.myshopify.com/products/organic-field-crop-handbook-3rd-edition> or available to borrow at the COG library <https://www.cog.ca/library/opac/index.php>. The COG library is also an excellent source of other resources to help in your organic cropping systems.



Manitoba

Guidelines For Estimating
Organic Crop Production Costs - 2019

Date: January, 2019

[Print All](#) | [Print Summary](#)

The following budgets are estimates of the cost of producing the most commonly grown organic field crops in Manitoba. General Manitoba Agriculture recommendations are assumed for crop fertility management. These figures provide an economic evaluation of the crops and estimated yields required to cover all costs. Costs include labour, investment and depreciation, but do not include management costs, nor do they necessarily represent the average cost of organic production in Manitoba.

These budgets may be adjusted by putting in your own figures. As a producer you are encouraged to calculate your own costs of production for various crops. On each farm, costs and yields differ due to soil type, climate and agronomic practices.

This tool is available as an Excel worksheet at: www.manitoba.ca/agriculture

[Introduction](#) | [Summary](#) | [Risk Analysis](#) | [Seed & Fertility](#) | [Pesticide](#) | [Op. Cost Input](#) | [Fixed Cost In](#)

Planning your crop rotation doesn't only involve agronomic considerations. Financial and marketing are just as important to ensure a profitable crop rotation. The Government of Manitoba **Cost of Production Budgets** are a great tool to help you critically look at your crop choices, yields and production costs and determine how they are impacting the profitability of your cropping system. The PDF form can be found here: <https://www.gov.mb.ca/agriculture/farm-management/financial-management/pubs/cop-crop-organic-production.pdf>. Or you can find the excel document at: <https://www.gov.mb.ca/agriculture/farm-management/production-economics/cost-of-production.html>. Make sure to click on the "Organic Crop Production Costs" XLS link.

Attend or create a Farm Club!

Farm clubs, or production groups are designed to promote farmer-to-farmer information sharing. The groups are typically regional, where producers may have similar production or marketing strategies in similar environmental regions. They are a great way to share knowledge between producers and discuss successes and challenges of different farming practices, marketing strategies and more! The Manitoba Organic Alliance organized regional farm clubs in the spring of 2018. There will be 3 regional farm clubs in the coming weeks. Try to attend one, or contact Katherine for tips on how to start one in your area!

December 2018 Farm Clubs

December 6th—MFGI Learning Centre, Brandon MB.
1pm-4pm

December 7th— MB Ag Office 117-2nd Ave NW,
Roblin, MB. **11am-2pm**

December 14th—Central, location TBA.

If you would like more information please contact
Katherine.stanley@umanitoba.ca



Photo credit: Haider Abbas (Roblin farm club)

Research Update

This month features research from Alden Braul (Hemp Production Services) and Terence McGonigale (Brandon University). The *September and October Edition* of *Growing Organic* discussed soil testing, phosphorus and manure management. To continue with this theme, both of the following articles focus on manure amendments in organic production.

If you are conducting research on your farm, with a producer or with an organization or company and would like to share your research results or observations in an upcoming edition of *Growing Organic*, contact Katherine Stanley at Katherine.stanley@umanitoba.ca

Impact of Hog Manure on Organic Hemp Yield

Alden Braul, Organic Production Specialist—Hemp Production Services

There is a commonly held public view that hemp can be grown in a wide range of soil types with few nutrients. Experienced organic hemp growers often comment that this perception couldn't be further from the truth. **Hemp is a nutrient-hungry plant that quickly responds to increased levels of soil fertility.**

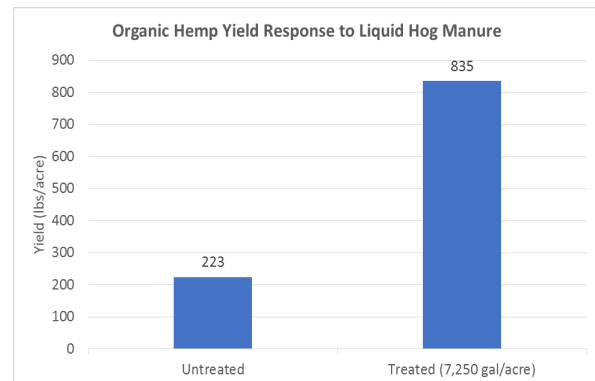
Few studies are available showing the impact of manure rates and timing on organic hemp yields. This summer, I came across an HPS-contracted organic hemp field in central Manitoba that had strips running across the field which matched the passes made by the liquid hog manure applicator the previous fall.

The grower informed me that the applicator was not working properly on this section of the field, leaving areas that likely received no manure. Situations like this become valuable learning opportunities, especially given the lack of research of fertility rates on yield. Sometimes, the best research plots are observed on-farm and happen by accident!

In order to better understand the effects of the manure application on yield, hemp grain yield and soil samples were taken from two locations in the field shown on the picture below (next page). The shorter hemp that likely received no manure was considered the control. The assumption was that

the taller hemp received a manure application at the targeted rate of 7,250 gallons/acre of liquid hog manure.

Not surprising, the two hemp yield samples varied greatly, shown by the bar graph below. **The control only yielded 223 lbs/acre, while the treated section of the field yielded 835 lbs/acre.**



Soil samples to 24" were taken from each of the locations on August 18th. Results are summarized in Table 1. Largest differences between the control and 7,250 gallons/acre rate were observed in N levels which could have played a role in the increased yield. The control had residual N levels of 17 lbs/acre, while the treated area still had 67

Continued on next page...

lbs/acre. Based on the liquid hog manure nutrient analysis, 181 lbs of N/acre were added to the treated area.

Table 1: Residual Nutrient Levels—August 18, 2018

Hog Manure Rate	N	P ₂ O ₅	K	Plant Height
	----- lbs/acre-----			--feet--
Control	17	36	710	2'
7,250 gallons/	67	40	694	4' to 5'

This simple data set shows the difference liquid hog manure applications can have on organic hemp yield, and ultimately the economic return to the organic producer.

When soil fertility levels are low, organic hemp producers should consider applying manure, compost or other organic fertilizer sources in the fall to improve yield.

However, this strategy should be complemented with a well-designed green manure addition in the rotation to improve soil fertility and biology.

This past fall, HPS established multiple organic hemp fertility trials across the prairies to gather more information on the effect of fall-applied compost and organic fertilizer applications on organic hemp yield. Through field days and research summaries, this information will be shared with organic growers in 2019 with the end goal of improving the sustainability of organic farming operations.

If you have any questions about these observations or other organic soil fertility research conducted by HPS, contact Alden Brault:

alden.braul@hempproductionservices.com

(204-979-7457).



Growth differences clearly visible between control (left side) and manured (right side).

Weed control and nutrient supply: Conflicting interests for cattle manure use on the organic farm?

Submitted by Terence McGonigle, Department of Biology, Brandon

A statistically replicated and randomized study from 2014-2017 at the organically certified Howpark Farms near Brandon found that **composted beef manure contributed no discernible N to soils and plants during the seven year rotation** as follows: three years of alfalfa, followed by flax, oats, cover crop, and wheat.

The study followed the fields from flax in 2014 to wheat in 2017. Well, what did we learn? Apparently, the application of the manure compost provides only for long-term replenishment of soil organic C and does not help with immediate N needs. So, why not add fresh manure instead, in order to release newly mineralized N for the crops? The answer, we know, is that **weed seeds therein must be eliminated by the composting process**. After all, herbicides are out of bounds, and weeds are a threat to yields. However, maintenance of fertility is also a challenge to the organic producer. Is there no way out of this conundrum?

Of course, the legumes in the rotation are designed to provide the N that is so badly needed. In 2016 of the experimental study, for example, yellow sweet clover was the cover crop for plow down, giving four years of N fixation out of seven rotation years. Yet, can any more be done? Ian Grossart at Howpark Farms is now trying the following adjustment to the rotation. Why not put the cattle right on the fields for

part of the year? Although this modification goes beyond the scope of the original experimental study, so that a statistical assessment is not in progress, the following evaluation is now underway. In June of 2018, separate fields in year six of the rotation were sown to a mix of 15 cover-crop species, including legumes, with 40 cattle per acre per day grazed on the cover crop rotationally from July until October. A rest interval, of six weeks was achieved before a second and final pass across any single field during that fall grazing period, followed by plow down in November.

Was the outcome a success?

The fall grazing offers promise for soil health, but Ian Grossart reports that the cattle weight gains during this period still have room for improvement.

“Given the year, we achieved a reasonable cover crop stand and an average rate of gain on the yearlings. We are waiting to see what the soil test tells us, and hopefully there will be adequate nutrition for the wheat crop next year.”

Also, there is still a need to get those wheat seedlings to surge ahead of the weeds next spring and shade them out of business. Hopefully, they can. Let us wait and see.

Upcoming Events:

- December 4th 10am: **Coffee Shop Talk—Dr. Jose Franco USDA-ARS Northern Great Plains Research Lab** “No-till organic transition, with and without grazing”
Contact Katherine.stanley@umanitoba.ca to receive slides.
- December Farm clubs—See Page 3 for details
- January 24th: Organic session at MB Ag Days in Brandon.
- February (TBA) - half day HPS Organic Hemp Agronomy Training, Carman MB.

Ideas for newsletter topics? More questions? Contact Katherine Stanley :

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