

Research Needs Assessment of Canadian Organic Cereals Producers



**Organic Agriculture Centre of Canada
Nova Scotia Agricultural College
Truro, NS**

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1. Introduction

In 2007, the OACC received funding from Agriculture and Agri-Food Canada's Advancing Canadian Agriculture and Agri-food (ACAAF) program to inventory organic research in Canada and prioritize organic research needs. A multi-stage project has resulted, involving identification of trends affecting the Canadian organic sector, opportunities and threats arising from these trends, strengths and weaknesses in the organic sector for addressing the opportunities and threats, and finally a research prioritization process arising from the preceding process. A key component of this process has been conducting a national survey of organic producers in Canada, asking them to rate the importance of different areas of research and provide comments on additional research they would like to see as well as other topics. National and regional reports resulting from this process outline the survey process and findings and are available at www.oacc.info.

Field crop production, and specifically cereal production, is a major organic production sector in Canada. Of all survey respondents, 61% produced or plan to produce cereal crops. This report summarizes the research priorities of cereals producers based on ratings for production-related research questions, as well as the written comments from cereals producers.

2. Top 20 Research Needs Identified by Cereals Producers

Table 1. Top 20 research needs among cereals producers, out of 53 subject areas (375 producers).

Rank	Category	Subject Area	Rating
1	Soil	Soil fertility and crop rotations	4.67
2	Plants	Beneficial crop rotations for specific problems	4.56
3	Plants	Ecological interactions in rotations	4.51
4	Plants	Rotations for weed control	4.48
5	Ecological Systems	Soil quality	4.48
6	Health and Food Quality	Quality and nutrition of organic foods - overall	4.47
7	Soil	Soil Biology - management to improve existing soil life	4.42
8	Plants	Cultural weed controls	4.40
9	Plants	Canada thistle control	4.38
10	Health and Food Quality	Quality and nutrition of organic field crops	4.35
11	Soil	Minimizing soil compaction	4.33
12	Plants	Long term cropping systems research	4.33
13	Animals	Parasites	4.32
14	Ecological Systems	Pesticide reduction	4.30
15	Ecological Systems	Energy use	4.26
16	Plants	Cultural disease controls	4.25
17	Plants	Mechanical weed controls (tillage)	4.23
18	Ecological Systems	Biodiversity	4.20
19	Plants	Cultural insect controls	4.18
20	Animals	Grazing	4.13

3. Written Comments from Cereals Producers

3.1. Managing soil fertility and soil quality/health: What other soil research would you like to see? (Includes responses to Soil Chemistry – other)

- Soil testing: microbiology (mycorrhizae and bacteria and fungi); fertility (free soil testing, on-farm soil testing kits, special test for organic soils); contaminants (e.g. arsenic near gold mines); need fact sheet on soil tests for organic farmers (8)
- Crop rotation: (e.g. crop sequence, benefits to each crop or non-benefits pro-cons; what rotations work best for different soil conditions? Best ways to manage sod and establish a new cereal crop and fertility to produce 1 t ac yield or better (7)
- Tillage (e.g. reducing tillage (fuel use) in a manner that still controls weeds, provides for rotations; effects on soil carbon; moisture conservation; timeliness of tillage; machinery to maintain residue and aggregate size; compare pros and cons of deep tillage (7)
- Organic soil amendments for fertility (e.g. enhance N, P, K, S; balance soil; alfalfa pellets; locally sourced amendments) (6)
- Cover crops / green manures for soil fertility (e.g. need a system to increase and maintain fertility using farm grown materials; Cover crops as sole fertility input for vegetable crops; What value do volunteer crops (weeds, etc) have with timely cultivation?) (6)
- calcium (e.g. regulating flow of other nutrients; calcium from rye straw and alfalfa) (5)
- pH balancing; lowering pH (5)
- Organic soil amendments for soil biology (e.g. liquid fish, molasses, humic acid and micro nutrients; mycorrhizal inoculants; enzymes; alfalfa pellets;) (4)
- Improvements in soil texture and soil properties (conductivity, moisture retention; till; soil organic matter) (4)
- Soil nutrients/fertility (balancing mineralization and use; improving efficiency) (4)
- Phosphorus (e.g. in alkaline soils, alternatives to phosphate) (3)
- Weed species variation with respect to changes in soil nutrient analysis (3)
- Crops used as combination green manure and grazing/feed (3)
- Composting: (e.g. green crops (clover); composting manure) (3)
- Intercropping: (e.g. oats-peas, nurse crop options with clovers) (3)
- How to raise Brix numbers (soluble sugars) in our plants (2)
- Biodynamics (e.g. ocean water) (2)
- microbiology (2)
- The use of hemp in soil fertility
- dung beetles in southern Canada
- Review existing research from early 1900s and build on it. Don't redo it. Ensure land you are using for trials has an adequate level of soil life before trials start.
- reclaiming saline patches
- Rotations for disease prevention in potatoes
- organic management
- microbe cycling/compost tea applications that will aid with extracting N out of soil air
- the working of all these together
- If chemical nitrogen (residue from past use) ever breaks down- or just ends up in wells. Effects of pollution.
- Any long term stats on nutrients present in biodynamically grown produce
- Ways to increase N availability to winter cereals (wheat, spelt)
- Research on compost teas,
- Differences of these in black, brown, grey soil zones as the things that influence one zone not be at a degree as another
- best way to handle burnt out spots
- Research into greenhouse gas budgets, etc. for green manure rotations vs. no-till conventional rotations with N fertilizer use. e.g. CO₂ from input manufacturing
- work with solonchic soils
- GMO work, transplant genes into plants to produce its own pesticide, herbicide and fertilizer intake
- albreck Reims
- soil ratio: Ca to Mg and P to K
- paramagnetic
- balancing ionic charges

3.2. Managing Weeds: Designing weed control programs to manage specific weeds

- wild oats (63)
- couch grass (7), quackgrass (46), twitchgrass (5)
- sow thistle (13)
- kochia (12)
- green foxtail (9); foxtail (2)
- dandelions (10)
- millet (10)
- Bindweed (4); field bindweed (6)
- stinkweed (10)
- redroot pigweed (5); pigweed (4)
- lambs quarters (8)
- leafy spurge (7)
- buckwheat (6)
- wild buckwheat (5)
- Ragweed (5)
- Cleavers (5)
- chickweed (4)
- round leaf mallow (4)
- downy brome (4)
- Japanese brome (4)
- scentless chamomile (3)
- white/cow cockle (3)
- Smartweeds / lady's thumb (3)
- Russian thistle (3)
- clovers (2)
- mustard (2)
- cocklebur (2)
- barnyard grass (2)
- Golden rod (2)
- Russian knapweed (2)
- winter annuals (2)
- garlic mustard (2)
- Persian darnel (2)
- vetch (2)
- "water floats"
- hemp nettle
- corn spurry
- Burdock
- ox-eye daisy
- velvet leaf
- tansy mustard
- fireweed
- barley grass
- Toad flax
- dragon head,
- grape vines (wild)
- Giant foxtail
- Flixweed
- purslane
- Canada thistle
- Wild lettuce in fall cereals
- pasture weeds
- wild sunflowers (brown eyed Susans)

3.3. Managing Weeds: Other weed management research

- ability of crop competition; weed/crop interactions; crop management (e.g. a good healthy dense crop) (6)
- specific weed/soil type problems / what is the presence of specific weeds indicating? / relationships between weeds (species, density) and soil biology/chemistry parameters, especially for perennials (thistles) (6)
- control weeds with zero till / reduced tillage (e.g. spring cutting of weeds prior to mechanical tillage to postpone disturbance of soil; reduce fuel use) (6)
- effect of soil fertility and soil health on weed populations, including pH (5)
- companion planting/underseeding (e.g. understory crops compatible with garlic) (5)
- How crop rotation can work to suppress weed populations (e.g. long term benefits of fall rye; continuous planting of red or yellow clover) (4)
- Promoting knowledge of medicinal weeds for humans and livestock (wild oats, dandelions, etc) (4)
- Nutritional value and palatability of weeds for humans or livestock (eg. Kochia) (4)
- in-crop tillage (interrow tillage and post emergent harrowing) (3)
- animal impact and rotational grazing (e.g. goats on Canada thistle) (3)
- timing of weed controls (eg. Tillage for Canada thistle; degree days / heat units as an indicator of weed age) (3)
- stronger old genetics (e.g. Bonanza barley; Fairway Crested Wheat) (3)
- cover crops for weed suppression (2)
- acetic acid/citric acid (2)
- intercropping (e.g. allelopathy) (2)
- Plant predators (e.g. painted lady butterflies reduce Canada thistle population) (2)
- top killing potato for maturity
- better flaming technology
- biodynamics
- Use as a green plow down (what do weeds put back? N, organic matter, erosion control, etc)
- allelopathic effect of crops
- Developing winter crops for barley, lentils, peas, oats, canola, mustard, similar to winter wheat and fall rye.
- Effect of light on weed seeds
- pollination

- broadcasting weed peppers will raise paramagnetic and carbon levels and reduce weed pressure
- An online of control methods and specific weed management
- Cost benefit of various weed management practices.
- I'm presently using summerfallow as a weed control practice. We need some research into the long term viability of summerfallow on crops rotation.
- For weeds, 2X tilling, late planting. Walk the fields, walk walk walk!
- I am not likely to use organic herbicides, but this may change with better knowledge
- Fungus and virus weed controls and radionics
- biological weed control for wild mustard
- A chemical you would spray on your land and would germinate all the seeds in the soil. One cultivation clears the soil up.
- spraying with hot water (field scale), possible organic additives to improve effectiveness
- Organic herbicide to control buckwheat
- Organic herbicides?? Has a nice sound but anything that can do the job of killing weeds in a similar manner as chemical herbicides must be dangerous??
- In years to come - herbicide resistant seeds that move around the country (air, truck, birds, animals)

3.4. Managing Crop Insect Pests: What other insect research would you like to see?

- Control of wheat midge (11); midge resistance in wheat (4); Cultural, rotation, cropping practice re wheat midge control (1)
- no or very few problems with insects (5)
- sawfly (4)
- cucumber beetle (also on squash) (4)
- Will improving the brix (sugar) content of the crops decrease insect pests? (4)
- plant nutrition/health for insect resistance (3)
- trap crops (3)
- Wireworm control in potatoes (e.g. will certain vitamins and minerals help keep them away?) (3)
- control of Colorado potato beetles (2)
- beneficial insects (e.g. advantages of organic vs. conventional; pollination, predation on wheat midge; ladybugs for alfalfa seed) (2)
- soybean aphid control/management (2)
- Insect control in sunflowers (e.g. diamondback moth) (2)
- Effects of chemicals on earthworms
- Use materials controls as spraying insects kills birds
- population monitoring techniques
- we are situated on sandy soil, grasshoppers are a problem have to grow crops that grasshoppers don't like - such as millet
- corn earworm
- insect pests in stored crops
- apple, plum curculio
- corn borer can be a bit of a problem
- The evolution of insects and how global warming is affecting their spread.
- I divide my bigger fields with grass strips so the birds and other mammals have shelter. I make bare spots for the field larks, the beautiful birds are all disappearing? Did you notice?
- Effects of insecticides on humans- especially in relation to cancer and allergies.
- check plant tissue pH, repellent, microbes, companion plants
- flea beetle - best practices?
- Any long term stats available on compost teas as a "natural" insect/scab deterrent
- alfalfa weevil
- Black fruit fly control
- How do we improve leaf cutter bee survival? How do we discourage lygus bugs in alfalfa for seed without burning off the field?
- Richardson ground squirrel
- Cost benefit
- resistant cereal varieties
- Gull Midge

3.5. Managing Crop Diseases: What other disease research would you like to see?

- Crops with resistance (e.g. horizontal resistance breeding clubs (startup, funding, expertise) - see R. Robinson, Return to Resistance, Ottawa 1996; Plant breeding for organic crop production) (5)
- Fusarium (5)
- Relationship between soil life and plant diseases (3)
- Smut (e.g. in corn, barley) (3)
- tan spot (e.g. in barley) (2)
- Impact of NPK and other nutrients/minerals on diseases (e.g.. Potato scab) (2)
- Climatic conditions (e.g. Altering climatic conditions on farm/by field e.g. For blight control. What field to match with which crop? i.e. slope, air movement, row spacing, temp, moisture, etc.; Population densities and heat zone differences) (2)
- Ergot reduction especially in rye (and wheat) (2)
- Wheat midge (2)
- sclerotinia in sunflower and peas
- in seed checked before selling
- Blight control in potato
- fungal disease in barley
- How pollution affects it.
- How to increase brix.
- Downy mildew of cucumbers and onions
- Effects of fungicides on humans- especially in relation to cancer and allergies.
- Present conventional is doing their best - at least they can keep you informed - guide you. Organic bylaw setters would all go broke if they had to farm. There is no guidance, only bylaws. It seems strange you must be certified to call your produce organic now unless you are certified. What happened? We need experience and proof things that give results that work.
- In B2, B3, B4 - my concern is from History. We as humans think we can control ourselves with biological controls but seem to think, if a "pinch" is good then a "pound" is better?
- Are human diseases linked to plant deficiencies?
- Cost benefit
- Dry year specific cultural practices
- not sure how to control crop diseases other than rotation
- oats
- The use of compost teas for diseases.

3.6. Crop Rotations: What other crop rotation research?

- Interseeding / intercropping / companion cropping ie. Oats/peas, flax/wheat, Hemp/peas; prove/disprove intercropping myths (9)
- fertility and rotations, including N and P; green manures in rotation (which crops?); pulses; alfalfa (6)
- Underseeding (e.g. How to minimize competition from underseeded clover while at the same time getting good establishment) (2)
- regionally-specific crop rotation research (e.g. for different soil zones) (2)
- Specific rotations for weeds (Canada thistle, wild mustard, weed pressure, alfalfa for weed control) (3)
- Specific rotations for insect control (grasshoppers, wheat midge, sawfly) (2)
- 1-clover plowdown, 2-oilseed, 3-cereal, 4-pulse, 5-cereal with clover
- All very important - only tool organic farmers have to combat disease, insects, weeds
- Benefits of extended perennials in rotation (eg. 3,5,10 years?)
- Cost benefit.
- Discovering an effective cropping system to utilize the allelopathic effects of rye and alfalfa, etc.
- effect of alfalfa on phosphate release; buckwheat also
- I would like a program/formula board on soil nutrients, pest control, market etc that would help me decide the optimal crop or crop type to plant
- include livestock grazing, bale grazing, etc.
- multivarieties
- rare crops
- effects of legumes on soil tilth

- Long-term work research work is nice but very expensive and we have considerable in the literature
- More on short seasons crops e.g. polish canola, 60 day barley. Are there any more?
- research into no-till systems and associated non-tillage ways of dealing with green manures (eg. mowing or rolling)
- research on how important rye and oats are in a rotation.
- How to get a higher brix on the pastures
- Rotation! Rotation! Rotation. But remember, financially you have to stay alive!
- Rye and control of volunteer rye. Is perennial rye an option for organics?
- I'm concerned about our ability especially in SW Saskatchewan to produce crops without summerfallow especially in the light of warmer summer weather.
- See research done at Lethbridge: irrigation, sustainable studies of crop rotations, zone tillage; not specifically organic but very appropriate.
- soil test for best crops and also a new machine for crop burning if this is allowed
- We need alternatives for years when weather makes following our planned rotation impossible. Rotation is very useful except with poor weather.

3.7. Breeding/testing varieties for suitability in organic systems:

3.7.1. Which crops would you target for breeding research?

- Oats (48)
- Barley (26)
- Winter barley (2)
- Hullless barley (1)
- Older/heritage barley varieties (2)
- Alfalfa (8)
- Clovers (2)
- Red clover
- Sweet clover (2)
- rye (10)
- spring wheat (67): wheat midge control; protein
- CPS wheat (2)
- Wheat CWRS (1)
- flax (36): competitiveness
- late varieties
- beans (dry/edible) (3)
- hay (5)
- corn (grain) (15); silage (2)
- canola (8); Polish canola (1)
- soybeans (11)
- durum (7)
- all (8)
- peas (12)
- winter wheat (5)
- cereals (31)
- winter cereals (3)
- oilseeds (7)
- pulses (10)
- alfalfa seed (2)
- grains (8)
- sunflower (1)
- Lentils (10)
- Hemp (4)
- spelt (4); spring (2); winter (2)
- hempseed
- FABABEAN
- Heritage/ancient varieties (4)
- mixed grains
- row crops
- legumes (1)
- grasses (2)
- sorghum (1)
- quinoa (1)
- salba (1)
- Hullless oats in sandy loam soil
- Triticale (1)
- Forage/pasture (3)
- Perennials of all kinds
- Mustard (2)
- Yellow mustard (2)
- camelina (6)
- Heritage wheat
- rapeseed
- Winter/fall crops (2)
- perennial cereals (wheat) (3)
- Golden flax
- white oats

3.7.2. What specific variety of breeding research would you like to see?

Cereals research

- Wheat midge resistance (3)
- wheat protein level (2)
- good bread wheats / milling varieties (2)
- Varieties which are best suited for organics in our area; Varieties more suitable for organic (i.e. Selkirk/Glenlea VRS AC Barrie), including heritage varieties. (2)
- AC Morgan oats
- ancient grains
- Winter wheat winter survival without stubble to catch snow
- Is spelt as hardy now as claimed
- Absolutely essential that organic seed must be available through CSGA on equivalent re: purity, germination, elimination of rogues / foreign weeds / etc.
- Heritage seed Red Fife wheat, spelt,
- disease resistant wheat
- oats for feed, oats for milling
- reduce wheat dependency on synthetic nitrogen.
- weed competitive spring cereals
- Hulless oats. Complete feed mixture planted together and harvested together for chicken feeds.
- Prescott oats.
- Pasta - durum, soft white spring wheat?
- Development of wheat varieties for fall planting that have qualities similar to spring-seeded varieties
- comparing plant vigor within a specific grain. i.e. Oats, wheat, etc.
- Developing winter crops like winter wheat and fall rye

General breeding research

- Test for varieties that compete with weeds in low input systems (e.g. cereals that are medium tall in height and more stems and leaves) (5)
- Crops that grow better with natural fertilizer; less dependent on fertilizer (4)
- plants that are more competitive, better root systems, better at accessing nutrients (4)
- GMO free varieties (3)
- natural disease resistance (3)
- Have we bred current varieties for use with high levels of nitrogen and fungicides and are these varieties a good fit in an organic system? (2)
- We need research into breeding open pollinated seed of different crop varieties that farmers can then save seed from themselves (e.g. non-hybrid corn varieties) (2)
- If you have a good fertile soil and manage things well most of the varieties will give you an average yield or better (2)
- protein level (2)
- Shorter growing season varieties (2)
- test older varieties; Heirloom vs. hybrids - "pros/cons" (2)
- more crop leaf coverage (2)
- natural breeding research, not modified
- Traditional/conventional breeding adequate
- All thickness of final gland and ground shade
- Nutrient density, crop quality.
- Crops that give good seed quality and high brix readings.
- soil building crops that build not mine
- Need to focus on crops that have been targeted by chemical/seed companies for high yield using inputs - perhaps a need to reclaim some of the research.
- Drought resistance
- For the fall planted crops, is it possible to suppress sprouting until it is actually required?
- non-crossing to GMO crops
- Higher yielding varieties
- plants that will start growing earlier under cooler conditions
- perennial varieties
- Bonanza high yield, lots of straw, disease tolerant, grew on alkali, Monsanto trying to get rid of it. Blue Aleron.
- Best crops to use for buffer zones i.e. crops that would trap the most pesticide or other prohibited substance.

3.8. Specialized equipment: What types of equipment would you like to see researched (e.g. weed clippers, chaff collectors, crimper/rollers, etc.)

- weed clippers (e.g. clipper that could be modified for cutting hay) (46)
- chaff collectors (39)
- crimper/roller (for green manures) (30)
- In-crop weeding equipment (e.g. Harrow in emergent crop, rotary hoe, finger weeder (including timing; tine weeder; spring tooth weeder) (21)
- mechanical weed control implements in general (15)
- rod weeder (8)
- plant / weed / green manure mower (8)
- Research/equipment for zero-till and reduced tillage (including small scale equipment) (8)
- Other tillage equipment for ground prep and plowdowns (e.g. spaders vs. rototillers; discers; tillers; rotovators; wide blade cultivator; new tillage equipment) (8)
- flamers (5)
- seeders to seed through mulch or winter killed cover crop (4)
- compost tea brewers (2)
- compost tea application equipment (2)
- rock crushers (2)
- interrow tillage (2)
- planters, seed drill (2)
- I think farmers are good enough researchers in this area. I think research dollars are better spent elsewhere (2)
- equipment to control quick grass
- A type of vacuum to suck up weed seeds on the surface before they can become established
- mulching
- on-farm weather stations - computerized and non computerized monitoring
- collecting CO₂ to grow algae in closed loop reactors for fertilizer and oil
- Research into a better way (an implement) to convert sod to a seedbed
- swathing grain early
- Testing of available equipment (in-depth) would also help a lot (e.g. "Specialized " equip. of past ie chaff collectors of the 70's, mowers VRS "moco's", mouldboard plows (a heresy) used in late October on wet Red River Gumbo doesn't cause soil erosion. Am I wrong?; could a NOBLE blade cultivator be used to cut weeds in flax stubble after harvest, so rye or winter wheat could be planted) (4)
- Small seed cleaning equipment.
- Small rolled oats mills
- Horse drawn implements/ techniques.
- seed cleaning devices on combines, s (inexpensive)
- Water collection systems that could be used in cooler temps.
- Combines with chaff spreaders
- Equipment specifically designed to work in certain soil types and land geography/ soil zones
- manure spreading
- Perhaps the roller to discourage wild mustard in the young crop is most pressing for us.
- electronic grasshopper zappers
- Pelleting equipment (small scale) for screened residues. Also would be interested in research on nutrient value of these products.
- equipment for disposing of hemp and flax straw
- Equipment for adding water to the furrow as you are seeding.
- weed whippers
- Seeing something work through a CD is better than describing how it works (actual benefits).
- much research has been done - cost of equipment for size of farms and/or lack of close neighbours to share equipment is more of the problem

3.9. Production Economics

3.9.1. Which crops or animals would you like to see researched (e.g. hemp, camelina, carrots, ostrich)?

- wheat (spring and winter; including midge resistant wheat and durum) (10)
- Cereals / grains in general (6)
- Rye (4)
- Spelt (4)
- Oats (including hullless oats) (4)
- mixed farming (including small scale mixed farming at a local market level) (3)
- Green manures and cover crops (incl. sweet clover, legume g.m. crops that lower pH and help unlock P, others) (3)
- Production research should be directed towards proven (or highly likely) marketable products (2)
- corn (including open pollinated) (2)
- crop rotations (e.g. cereal forage rotation for dairy with minimal grain inputs) (2)
- Specialty grains (e.g. einkorn) (2)
- barley
- winter crops
- Biodynamic farming
- seed saving methods
- any crop that may have a niche in the rotation (eg. like how rye fights weeds)
- intercropping - multiple varieties
- I have a good knowledge of my costs
- as many as need be and can be done
- Maybe just a need to show profitable systems work.
- Important area (critical) but farm specific. Farm business model will determine profitability

3.9.2. Which value added projects would you like to see researched (e.g. cleaning plant, custom operations, birdseed, wild oat oatmeal)?

- cleaning plant / cleaning operations (51)
- wild oat oatmeal (35)
- birdseed (12)
- custom operations (e.g. spraying) (12)
- flour milling (6)
- Uses for weeds (e.g. wild oats; health properties; Wild mustard as a condiment or as a bio-diesel source) (5)
- packaging lines, marketing direct to consumers / on-farm processing (5)
- Specialty / novelty food products (e.g. peas into peanut butter; chewing gum; custom breads (Red Fife), gluten free products; sprout market) (5)
- Oil pressing (including camelina oil) (4)
- Grain products (e.g. breakfast cereals, granola bars, grain based snacks) (4)
- Seed production (e.g. certified organic AND blue tag certified seed) (4)
- Marketing / cooperative marketing (4)
- oat mill (3)
- this technology is usually the same as technology needed for conventional crop processing (3)
- Cleaning and dehulling sunflower, buckwheat, spelt (2)
- Research in value added for the most part should be done and paid for by those investors interested (2)
- hempseed cleaner, dehuller and press (2)
- Processing research (e.g. shelf life of organic products with no preservatives; how to maintain nutritive value through processing) (2)
- beans / soybeans (e.g. Canned beans) (2)
- Hemp fibre products (twine, diesel fuel, paper, panel board, insulation, etc.)
- organic milk availability for consumers
- Compost
- straw
- agroforestry projects
- agri-eco-tourism;
- Bio-diesel farm-scale biomethane
- Beef feed, Horse feed
- Inventory of what's available.
- too much gov't red tape to attempt, and lack of infrastructure
- time should be available to research projects as they become necessary
- These are good projects. But I wouldn't place money in them to research but help farmers to develop them.

3.10. Quality and Nutrition of Organic Foods: Field Crops

- All crops (16)
- wheat (including soft white wheat, CPS wheat, GRS wheat and bread wheat) (70)
- oats (60)
- flax (46)
- cereals / grains (37)
- barley (23)
- peas (23)
- spelt (19)
- Soybean (including yellow soybeans and white hilum soybeans) (16)
- rye (13)
- corn (12)
- pulses (10)
- oilseeds (9)
- hemp (9)
- lentils (8)
- forages / pasture / hay / grass / forages for horses (8)
- durum (8)
- beans (5)
- hullless oats (4)
- kamut (4)
- alfalfa (4)
- heritage wheat (including Red Fife) (3)
- camelina (3)
- mustard (2)
- compare to conventional (Taste, quality, shelf life, nutrition – energy) (2)
- timothy
- canola
- new releases
- mixed grain
- Heritage flax, barley, oats
- silage corn
- specialty crops
- fall wheat
- buckwheat
- clover
- salba

3.11. The Contribution of Organic to Sustainability: What other sustainability research would you like to see?

- Statistics on environmental footprint left by organic production as opposed to conventional farming (e.g. What number of trees do I need to plant to have a "0" footprint of carbon when I burn 20,000 litres of fuel a year on my farm; comparison of organic and zero-till; Carbon accounting for different rotations, tillage systems) (7)
- soil fertility (e.g. To what extent does soil have the ability to regenerate fertility, and what can a farmer do to assist that process; pH; organic vs. chemical fertilizer) (7)
- long term soil building / soil quality (e.g. organic matter; adding alfalfa pellets to improve soil quality; soil microbiology; soil ecology) (7)
- Studies relating to economic / social sustainability of small farm operations (crop/livestock mix, scale of production, marketing sources and returns, labour resources; young new farmers; healthy community; "whole" organic farm) (6)
- soil moisture (e.g. improving water holding capacity of the soil. Does improving soil microbiology improve soil water holding capacity?) (4)
- Surface water quality, groundwater quality, wastewater treatment, alternatives to tile drain (4)
- Research framed in a regional context, fewer food miles (e.g. local food systems) (3)
- Agricultural fuel reduction (3)
- Contamination of heritage seed by GMO crops. GMO crops contaminating natural plants (2)
- any link between wild life health and organic systems (e.g. songbirds) (2)
- alternative energy (e.g. solar power, wind mills, Sun powered batteries? Hybrids?) (2)
- energy use / budgets (2)
- Vegetable oil as a fuel source for equipment - clean diesel technology - farmer self-sufficiency fuel and on-farm creation of fuel (2)
- preventing erosion (2)
- Pesticides (e.g. Testing of residual pesticides (organic and conventional) to prove differences; honest report on effects of farm chemicals on farmers and consumers) (2)
- Reduced tillage (2)
- how can we best measure sustainability and use it as a marketing tool (2)
- Biological weed control
- Sustainable fiber production.

- possibility of using people in place of polluting machines. Job creation- healthier lifestyles.
 - Farm programs that work for organic farmers instead of conventional
 - Air quality control, pre annual wheat and other cereal crops
 - How to eliminate the hard-pan
 - deer controls, crows, coyotes. They eat the cover crops, fruits, vegetables, potatoes. Overpopulation. They also destroy research projects.
 - Pollution to soil
 - Waste (garbage) reduction.
 - Demonstrate the suitability of draft horses on farms.
 - Only organic agriculture is sustainable - wait another 10 years
 - all grass fed animals.
 - Why is spring wheat now \$1200 a tonne?
 - How to and how much can we produce with perennials. A book called tree crops indicates potential to supply all of man's needs from trees. We are so entangled by the almighty dollar dictating what we do,
- Economy speaks of frugality and careful management.
- Ways to replace and improve soils to enhance natural drainage
 - How can we show the skeptics that making fertilizers, fungicides, herbicides, pesticides uses many resources (water, petrol, etc) and by-products are end result. Sustainability to who or what is the question in general (Earth, people, wildlife or does it come down to dollars and cents). We (humans) are usually our worst enemies in the long haul.
 - endangered species, global warming, etc
 - Can we feed the planet if we spent as much on research in organic agriculture as there is spent for conventional agriculture?
 - use of marsh and slough vegetation: bullrushes
 - Perennial wheat
 - Perhaps capturing the emissions on internal combustion engines and using the byproduct.
 - trees
 - hay

3.12. Research Management: Additional comments?

- Big concern is funding of public research is being replaced by private interests (patentable). We need a system that will research for the common good (5)
- Producer involvement is important/imperative (5)
- Regional research important (e.g. for different heat unit areas, soil zones) (4)
- Producers need to be fairly compensated for their time/expertise (3)
- Organic farmers are in many cases 10 to 20 years ahead of researchers. Research into organics is in its infancy right now. Many gaps in organic research (3)
- Should work on passing on farm knowledge (2)
- Training and dissemination of results with twilight meetings etc. (2)
- Research needs to be basic and practical (2)
- Regional / Producer research very expensive. Would like only research projects having widespread application approved.
- Where ever research is done there needs to be a certain level of soil life and fertility before it is started. All organic farms won't necessarily be at this level.
- This survey is a very good way to discover what direction to funnel research dollars.
- there are many different systems that producer use. Some work better or worse than others
- on farm research the best but not as practical for researchers
- I believe care should be taken not to overspend on research. Generally results of studies can be very misleading.
- research to make sure that organic producers do not cheat and make it bad for good producers
- help achieve needed goals of farmers - economic viability; environmental sustainability; etc.
- research should answer question producers are asking now.
- researchers and farmers need to better understand the pitfalls and successes of field research vs. in the lab or computer generated. If not managed properly can create divisions.
- some type of focus on what consumer is looking for
- Farm scale equipment difficult because of variety of farm sizes. Cost of equipment needs to be addressed in research
- Who decides how??
- More knowledge transfer from European well established research sites
- In a depression, there will be no research dollars
- Farm research with farm apprentices
- Practical on-farm research using various organic inputs is a must.
- time is a issue for producers
- Regional education sessions available to farmers followed up with support to farmers to continue with research on individual farms. Soil and plant lab analysis.
- Theoretical and practical research must be balanced. It would be interesting to compare demonstration farm results with on-farm results. ie. Researchers contact farmers whose cropping practices match the research trial.
- The reason I circled 4 in D4 is because you would have to have every producer as an advisor since you can't get 2 producers to agree over coffee not alone the amount of research areas.
- I hate to see "boards" set up for I find this costs more in most cases than it delivers
- We already have too many committees and boards. Maybe researchers could attend organic meetings already scheduled to get feedback.
- Research on demonstration and research farms should be done only if the land has actually been organic for 3 or more years
- Researchers tend to focus on inputs and possible new crops. Research should focus on sustainable low cost, profitable crops with well established markets.
- use of internet technologies (web 2.0) to improve amount and degree of interaction
- Tough questions, but research dollars have to have a purpose that meets all
- Research must be focused toward benefiting producers as well as consumers (health) rather than toward agri-business. If research does not benefit those on the land- we need not go there!

3.13. Post-production Needs: Other initiatives?

- Consumer education on standards and organic benefits very important (e.g. wireworm holes in potato better than organophosphates; needs to be done tactfully; ad campaigns on organic and labeling) (11)
- local organic food (e.g. in schools; local organic forum; direct marketing) (5)
- ratings on brokers/buyer companies, provide market transparency and promote fair pricing/transparency (4)
- current contact info (like food products handbook) for buyers / producers; marketing website listing organic products for sale (3)
- Co-operative marketing - not all of us "top" the market nor even know what the market is (2)
- Testing of organic and conventional to prove (hopefully) differences.
- It does not matter what we grow or how we grow it, if we can't sell it. Too much emphasis has been on diversification in agriculture over the years, which has not helped. Markets need to be developed first and transportation of product (2)
- I think the producer needs to be involved enough to get marketing info for himself or join a marketing group or company
- Have a marketing campaign on grass-fed beef, free range chickens, free range hogs and not to many regulations.
- As a producer, it is all about the consumer as we have to meet their needs.
- need support for local/on-farm processing facilities for crops (2), fruits, veggies and livestock (mobile; federally inspected) (4)
- Organic feedlots for organic calves
- I think that processing facilities are not research, but need to be here.
- Farmer education on organic standards. 'Ethics' has to be first priority not financial gain.
- Shared storage facilities of organic seeds until sale.
- Why are commodity prices flashed on TV- for greedy people to drool over? Why is food something to be manipulated and controlled?
- Research: Is food safety scale neutral? (i.e. should the same regulations apply to both small and large operations?)
- Support for the NFU, support for small and family farms
- These production needs have to be directed to various regions of Canada to make them effective and viable
- As mentioned, tie organic production to global warming/carbon footprint/species diversity (current buzzwords)
- Light a fire under [my certification body] as I get no feedback - What am I paying for?
- These are important but if money is limited the production side should be focused on first. I feel many more young farmers would come into farming if the production questions were answered.
- teach our children in the schools
- use of internet technology (Web 2.0) to improve amount and quality of producer/consumer interaction
- research to prove sickness and disease in humans coming from commercial farming methods

3.14. What barriers do you see for the growth of organics?

- Mainstreaming of organics / big box stores / cheap food / corporatization (24)
- lack of consumer education / knowledge on pricing, standards; consumer indifference; lack of consumer commitment (20)
- Difficulty accessing markets / lack of markets / marketing systems (e.g. Can't sell what we need to use for proper crop rotations; distance to markets) (21)
- too much government interference/regulations (e.g. meat processing regulations make it difficult for small scale processors) (18)
- GM grains and legumes (risk to environment, contamination, consumer concern) (15)
- Weed control (13)
- Lack of processing facilities (poultry; beef; fruits, vegetables, other) (11)
- GMO / chemical companies; promotion of chemicals, pesticides, no till fertilizers (11)
- No enforcement yet of organic standards in Canada; no protection of word "organic"; lack of consumer trust in labeling (11)
- decline in the number of farm owner/operators; more large farms (11)
- availability / price of land (10)
- Difficulty changing production mindset / fear of change (9)
- Paperwork (9)
- fuel costs / increased use (9)
- difficulty in scale (smaller sized equipment, difficulty accessing markets) (9)
- Cost of certification (7)
- lack of organic farmers / inability to meet demand (7)
- Marketing boards / quota systems (difficult for small farms; CWB) (7)
- Conventional farmers (e.g. spraying; concerns about weed spread) (7)
- keeping the premiums high enough / product pricing (7)
- poor returns / margins (7)
- Cheap / questionable imports of organic products (7)
- certification regulations too strict (e.g. use of fertilizers; sacrifice animal welfare; I can no longer use off-farm poultry manure because the hens are caged; requirement to certify all land) (6)
- Lack of training for transitional farmers / lack of knowledge on organic production (6)
- Lack of low cost test to prove organic status of product (6)
- Government support for conventional agriculture (6)
- Media prejudice / Negative naysayers / Myths about long-term yields in a world of perceived food shortage (6)
- Lack of buyer/broker integrity (5)
- cash flow / need prompt payment (5)
- lack of young farmers (5)
- Certification system lacks credibility / incompetent (5)
- Low yields / production uncertainty (5)
- labour shortage / cost (5)
- Environmental issues (Pollution, Global warming, use of fossil fuels, erosion) (5)
- freight / transportation issues / costs (4)
- Lack of subsidies / funding for farmers (3)
- Market uncertainty (3)
- poor quality products (3)
- Seed availability (3)
- High conventional prices (3)
- trying to comply with changing standards for certification (2)
- Start up costs (equipment, transition) (2)
- Government, certifier bodies who are in business with profit in mind instead of common sense (2)
- Insect control (2)
- Crop disease control (2)
- Cost factors (infrastructure; green manuring) (2)
- getting on shelves of local stores (2)
- Established farmers 40 and older (2)
- High organic cost to consumers (2)
- Farmers going into organic production just for the extra \$\$ to be made (2)
- Lack of organic specific research (government should fund) (2)
- breakdown in link between producer and end user,
- producers trying to implement 'inorganic' practices such as pushing to allow growth hormone implants in animals.
- Competition from labeled grass fed beef with a protocol attractive to health conscious consumers.
- weather

- Lack of food inspection for meat, interprovincial and USA trade opportunities
 - Large scale processors
 - machinery,
 - N supply
 - Soil management without using black fallow every second year.
 - shortage of organically approved soil amendments
 - Food safety,
 - Not enough unity amongst producers. Buyers pit producers against each other -
- when we have so much strength if 'we' decided how much a commodity should be sold for
 - The growing demand for food
 - Paradigms at producer, consumers, and government levels.
 - I'm afraid organic will also become victim to being management top heavy.
 - Vibrant regional, provincial organic association

3.15. What opportunities do you see for the growth of organics?

- increased consumer awareness (food quality, environmental issues, health, local foods, community health) (47)
 - growing demand for organic products (31)
 - large growth prospects / plenty, wide open, etc. (23)
 - better health of the environment / soil / wildlife (e.g. more robust farming system in face of changing weather, etc.) (17)
 - Consumer education required (e.g. on organic and conventional products / production; through Health Canada, CFIA, etc.) (14)
 - Low cost, efficient, making smaller farms more viable; sustainability and freedom (14)
 - Local food movement can benefit organics (14)
 - Direct marketing opportunities (farmers' markets, CSAs, farmgate sales, restaurants) (8)
 - Food quality / taste / nutrition (7)
 - As costs of inputs continue to trend upward organic will look more reasonable (7)
 - Value-added / processing (cleaning facilities, etc.) (6)
 - science catching up with the organic management system (e.g. New technologies for weed and pest control, new varieties, soil life testing to improve crop quality) (6)
 - Many opportunities for meat (including small livestock, beef) (6)
 - better human health (5)
 - Will depend on consumer trust / credibility of certified organic (5)
- Need to work toward conventional producers being able to incorporate some organic methods/products to reduce cost and harmful practices (4)
 - Organics offers opportunities for young farmers (4)
 - Need more producers / cannot meet current demand (4)
 - Overseas markets (4)
 - Research to prove superior quality of organic products (4)
 - Marketing through supermarkets, 'Big names' (Heinz, PC, Safeway), (raise awareness and provide greater selection in stores) (3)
 - Specialty markets (2)
 - Tourism to small towns- encouraging local 'tasting', farm tours (2)
 - Pending energy crisis (2)
 - urban agriculture (2)
 - Many opportunities for grain / oilseeds (2)
 - Many opportunities for organic fresh vegetables and fruit (3).
 - good prices, good time to switch from conventional (2)
 - cluster development to minimize cross contamination with fields located among commercial production; work cooperatively (2)
 - A marketing group that could umbrella farmers and brokers could go to one connection to find the product (2)
 - increased yield (2)
 - Growers and processors working together with educators to develop long term relations with each other and consumers

- Industry in infancy. Producers have opportunity to be the middlemen.
- More land trust opportunities
- With nationally accepted standard - able to market brand (Canadian Organic) and educate consumers.
- need to emphasize the health of soil as a marketing tool.
- Huge market in NE USA just 8 hours away and no way to access
- We are an isolated area - good for purity of seed production
- Increase in infrastructure to make farm crops & livestock easier for consumers. This infrastructure needs to be where production is (several around area for ease to producer)
- Land availability due to loss of beef and hog industry. Problems in potato sector as well.
- Slow-->steady
- I see we are just the tip of iceberg, all sectors will grow and so will prices, cheap food will soon be gone.
- Teach the farm ways that work well. Not only bylaws that cause too much loss and risk
- more positiveness between organic certifiers, processor/producer affiliation.
- There is a really good interest in organic foods. Be better if stores (grocery) had more on the market for people to buy.
- there must always be an organic premium.
- government support is improving
- dairy
- More information methods of disease; Need insect control
- PR by organic farmers (eg. SOD) to help charities, low-income people eg. By donating to food banks, holding free organic suppers for low-income, disadvantaged groups etc
- moratorium on genetic seeds
- organic farming by First Nations on Treaty Entitlement Land reserves. This would be a good economic opportunity for First Nations groups to improve self-sustainability and may help address some current socio-economic issues in Saskatchewan for that group. I think this is a great opportunity and the time is right currently.
- It is hard to grow and compete with large conventional farmers.
- Not much, because governments, multinationals and big retailers taken brutal control and watering down the ethical standards for their own profit.
- limited unless we can use some fertilizers
- slow

3.16. Additional comments: Is there anything that you'd like to add?

- Need updated info and pamphlets to identify products and inputs that we can use and not use in the production of our grains and livestock
- it is vital that we have a Canadian standard that all certifying bodies adhere to. Accountability to these standards must be strictly enforced especially once the 'bigger players' become involved otherwise our organic credibility and integrity will be compromised.
- Would like to know more about at what stage to till, harrow, cut weeds for best way to set them back or kill them. Before you seed, after the grain is up, and after you combine before winter.
- The way we farm, not using chemicals or fertilizers we should be recognized for not poisoning the soil or water. What about carbon credits.
- Awareness, attitudes, information
- Good questionnaire format/content. I'm new to organic and look to national standard as critical for industry taking next step in credibility
- It would be nice to have someone who could come and look at your operation and give suggestions, comments, as compared to what other organic producers are doing. Maybe give you some recommendations.
- There needs to be public education in the meaning of "certified organic" as compared to organic or natural or Organic producers don't add things (chemicals) to make something certified organic. There are way too many misconceptions out there!
- *Listen to progressive organic/biological producers, not "organic by neglect" producers.
- I wish a method or product to control dandelions in lawns could be developed as it would help many urban lawns and school yards as well as a few rural areas.
- Need for cheap and effective certification by independent ie. gov't certifier. Ability to do both organic and conventional farming. Organic is currently like a religion / So is conventional farming
- Once we get our production (yield/acre) and weed control where we would feel good then we could put more emphasis on the other issues. There is strong support for organic production amongst a wide range of people. For that I am thankful. We do need to make money at this as producers for organics to be viable.
- Would like information on how to analyze soil bio life.
- We need data showing the economic viability of organics so that enough farmers switch to organics and markets can be developed.
- More recognition by Gov't and more help by Gov't.
- We are glad that someone is interested in the organic movement. There is a large need to get more information to the public as long as the corporation are not the ones funding any studies. Is there any University in Canada that could teach us to farm biologically? Our ag-representatives don't know what "biological" farming is. For the organic farmer to succeed he has to farm with nature as intended. My wife and I had to go to many acres conference in the U.S.A. We could not find any government or University workers that could advise us on how to farm biologically. We have a very successful organic farm with value added on many of our products. Would like to meet you personally when you have time to discuss more issues concerning organic farming. Thank you for your time. This survey is greatly appreciated.
- We need to get some sense into using some fertilizer in organic. Especially phosphorous in our high lime, high pH soil. Unless we have access to phos fertilizer we won't grow any quality food products. People want healthy food, without poisonous chemicals dumped on their food.
- Growing organic products has its challenges but I believe if we as farmers can sell our product for a reasonable price, we don't really need a lot of help growing, researching, testing, etc. I guess consumer perception is what will drive our success.
- Crop roguing picking weeds with students many be funding to help picking weed in crops Gives work and in gardens to help with work that is ongoing.
- Very good questions.
- urban agriculture - as in Cuba! Farmers markets

- There should be one national standard for certifying agents, all producers would have the same forms and guidelines.
- More research on use of more diversified poultry pasture forages, and their interaction in soil building, fertility, soil structure, disease control, of plants and birds. Using forages as above for part of winter feed.
- I applaud what you folks are doing. I think we are on the verge of something big.
- I have been getting calls due to our webpage to sell beef in NS, Nfld and Ontario - lack of Federal plant keeps me very frustrated in not being able to sell.
- We need to find a better way to market our crops than as commodities; we need to value add locally and sell into a high value market; we need to work together to succeed
- We need markets - no point in producing organic production if it ends up being sold as conventional. Also, local quality needs to be as good as imported organic. Also, our local consumers are fairly price sensitive as compared to more affluent centers.
- Please read the Ontario Farmer and establish a 2 page Organic Section: Market Trends- Market Reports-Research Results-Featured Farms-'Exchange' (in this section readers ask and readers answer). Also a Wanted section.
- My husband and I have [many university degrees] and we've been watching the economics of fossil fuels for ages. Recently, it has peaked, gone over the peak. We speak to organizations about this. We have a food availability crisis looming.
- I grow organic vegetables and operate a box scheme where my customers get a bin of fresh organic (not certified) vegetables, delivered to their door each week. I cannot keep up with demand even without any advertising.
- get the University of Guelph doing some decent organic research! I might have to move to Nova Scotia.
- We need less paper work. Survey should be in winter not spring.
- Soil microorganisms seem to be extremely important in organic agriculture. I would like to see some Canadian tests in microorganisms found by Japanese Dr. Teruo Higa. His book: An Earth Soaring Revolution. ISBN 3-922201-35-0.
- Diversity (small family farms) really works- should be encouraged and supported. Start up farmers paired with old guys for sharing. Small dairy farmers in small communities should have the opportunity to set up small dairies to directly sell products. I'm please to be part of this survey. We are a small farm and sell what we can from our land. Our family has been here since 1821. Folk lore has been passed down and is very valuable. I know we're old fashioned- but we're still here. Is this something they track at Ag College?
- I am a new farmer and small acreage and I find that there is almost no support for the traditional small mixed farm. Organic monocropping is not the answer. Organic certification is too unwieldy for a mixed producer such as myself. Thank you.
- The more research made available would be appreciated (seed development). Information to the consumers and the producers is always a must
- I have a concern pertaining to the excessive use of cultivation in order to eliminate herbicides - i.e. 6-8 cultivations of quack grass on 40 ac of land instead of one application of round-up - neither option feels right to me! Any ideas??
- It would be nice if someone listened to us organic producers. Does something come out of these questionnaires?
- Re: records - see recent article in Small Farm Magazine. I think that testing for chemical free, GMO free food should replace records that can be done the night before the inspector shows up. Annual or even semiannual farm visits should be mandatory, but don't get so hung up on the record system. Just because I didn't write it down doesn't mean I didn't do it!
- My son is working with myself on the farm and I hope the farm is going on. The change to organics made us successful and that's why the farm is going on into the future. That makes me very happy!
- Measuring food quality and putting numbers on it is key to keep consumers interested in paying premium prices.
- I am happy to see that governments are now putting resources into serving the organic industry I.E. Guelph and Alfred college, OACC, etc.

- Surveys are good - tools for producers are good- what we all need is education to consumers that would free up the producer to do what he does best- grow food. What we are seeing is again large supermarkets advertising organic products which are not even from Canada. Money should be spent on education of consumers - lot of them do not have a clue on the differences - they only know it costs a lot more. Some producers are also overcharging for their products and some are not even certified.
- Since the US research and information is about 10 years ahead of us, more US speakers are needed at our conferences. The ACRES conference is a conference we should closely align ourselves with. Speakers - Gary Zimmer, Neil Kinsey, Dan Skow, Bruce Taino, Elaine Ingham, Mary-Howell & Klass Martens, Jerry Brunetti.
- Make things as simple as possible, but not simpler! Albert Einstein. Chemical farming and GMO seeds are too simple. It is always a better one out there and every time I am looking to him to learn. God Bless!
- More radionics information
- Pesticide manufacturers should be taxed to support organic agriculture.
- Just purchased a hobby farm for the first time. Transitioning to organic. Would like to lease field to convert to organic.
- I hope this survey is repeated annually- after more experience I may be able to answer more intelligently.
- Finding effective ways to minimize tillage and maximize legumes into the rotation. Finding biological ways to activate soil nutrient release and defenses against weeds, insects, and other pests or diseases. Research economics of compost teas and efficiency.
- GMO issues/contamination of organic crops. Seed rule exemption is ridiculous e.g. organic farmer plants treated seed. Organic trust basis loopholes e.g. organic dairy farmers buying conventional straw. We need more farmers on less land. Spiritually, growing is an act of creation to be shared by all people not just a select few. Need a more right-brained approach to farming, of giving back to the land, we are the land. Healing at many levels; people, land, healthy intentions.
- Grower for 54 years, 83.5 years old. All life on earth needs balance. Excess-deficiency - environment, plants, man, animals. Nature tries with the law of return - we must learn this. Conventional agriculture is like the drug cartel. We organic also have a lot to learn. Too many bureaucrats. If you are not certified you cannot call your foods organically grown. I was experimenting on a small area in 2004 and lost certification causing me bankruptcy.
- Dead of winter rather than spring is a better time to send out a farm survey. Look forward to reading results
- Please have all current production info and research on website. Need direct sources of information and where to acquire organic seed and supplies in my region
- This survey has been an all encompassing one in which you have covered much material. I would like to see a similar type survey carried out at a regional level, because I suspect producers in different parts of the country might have specific concerns or recommendations. I know that I have (want organic course at Ridgetown College). Keep up the good work and I wish you well.
- Thanks for having an interest in organic farming and for putting out this survey
- Thanks
- My wife and I attended a week long soil sustainable study course presented by Elaine Ingham and Jason Hoffman of Soil Food Web. The course was held on the U of Guelph Campus. There was not attendance by university staff ... and most participants ... the east coast and some from the west. The information obtained from this course has changed our dreams / designs (?) ... and I can't help but ask where was university of Guelph or Ontario organic organizations
- If you are an older producer like me and are thinking of renting (particularly) or selling it is difficult to find opportunities. I think going organic was the smartest thing I've ever done except for getting married.
- We would like to collaborate/participate in research projects to test the effectiveness of dehy alfalfa pellets as a soil amendment/fertilizer for organic crops.(Increases health of soil overall- increases wheat protein, increases sodium uptake plus many other attributes)
- Testing the seed, animal, or other organic product as a means for determining soil deficiencies.

- We need publicity for 'eat local', 'organic logo and meaning', SOD, COG, local farm visits, etc. Connect the consumer with the farmer - TV shorts, ads, and prints
- There's a lot of producers out there doing a "real " good job . . . It would be great if we had access to these producers where we could talk to them (like an open forum with Q and A) Thanks.
- I rent out my land - who are 100% organic also.
- Organic is a choice of lifestyle that should not be dependent on economics or assistance (financial). Regardless if a producer is organic or not, they are doing well to be able to succeed. We do like our choice of being organic. (Keep up the good work!)
- We need to promote use of rail vs. truck. We have to be vigilant regards organic certification nationally and trust of consumer.
- Organic farming is firstly a philosophy. Although extension work on production is important, management based on goal setting that recognizes the equal importance of social and environmental, as well as economic considerations is essential. I would really like to see organics embrace the decision making process, as practiced in Holistic Management (Allan Savory). Workshops in H.M. would be very useful to organic farmers and help the movement keep on track in these exciting but challenging times.
- Would like to see info/research on organic intercropping
- I am concerned that the new national standard will water down the quality and integrity of organic farms. I put a lot of effort into my farm and get the same price as a conventional farmer just trying to make a quick buck on a quarter section of newly broken alfalfa (including parallel production)
- 2008 will be first that is organic; 3 years no chemical
- The workshop that is in Saskatoon is in my opinion too expensive. I would not stay there when I can get rooms for less than a hundred dollars a night. I think you should be able to get better deals than that if I have to drive four and half to get there then pay \$130+ per night. Not happening with us.
- I am relatively new at this game but I see some organic marketers that are doing their best to screw the producers. There is no regulations or help in marketing. The farmer takes the risk and buyers make the profit. What's new?
- More info about organic beef, such as buyers, processors, and slaughter facilities, or feedlots.
- To continue on my point in Section G, I do not use any "allowable" products to aid grain production. I think if we are organic producers, only natural products should be used. I believe this will help keep the industry more pure. It is extremely tough but I think it will pay off in the long run. Note on cattle: I raise my cows/calves organically now even though the animals are not certified yet.
- 1- More work needs to be done to ensure that organic status means what it's supposed to by cracking down on cheaters. 2-informing the public of imported "organic" products and where it was produced/and where it was packaged
- Very comprehensive survey
- Plowdown research using mixed seed and see if soil fertility or health is improved. I.e. Mix of peas, vetch, Indian Head lentils vs. just a plowdown of peas. I think you will see a stronger soil response in future years with a mixed plow down. Additional 2-page attachment: ORGANIC RESEARCH QUESTIONS: Research questions and opportunities: 1) My farm is divided into 40 acre fields and I rotate alfalfa through these strips to add nutrients and choke out Canada thistle (I find it takes about three to four years to bring Canada thistle under control). Currently the alfalfa is cut and baled and hauled off the farm by my neighbor as I do not have cattle. This removes a lot of phosphorous from the soil. . . My question is in regards to the year I plan to break up the alfalfa and bring the land back into grain production. Is there Phosphorous available to the plants the following year if I work in a standing crop of alfalfa (just before flowering) vs. cutting and baling it first and working the stubble? If alfalfa is a high P user is it tied up in the plant and will it be released back into the soil in a plant available form or will it be tied back up into the soil structure when the plant decomposes making it difficult for a future crop to access? 2) In the 1980's we planted miles of shelterbelt trees that are becoming quite large. With all the talk of CO2 sequestering and the need for carbon neutral processes I am wondering how many trees it would take to make a farm "carbon neutral". We farm in southeast Saskatchewan and there are not very many trees. My research question or fact sheet would be to determine how many trees,

what species (caragana, green ash, etc.) are required for a farm to become carbon neutral. I farm 2300 acres and burn approximately 20,000 liters of diesel and 5000 liters of gas a year. I would like to know how many trees per quarter section are required. If we have these numbers then organic farmers can plant trees and claim they are not contributing to green house gas pollution. 3) I would like a fact sheet or research done on information organic farmers need to ask for and what tests need to be done for an accurate soil test. I have tried to understand soil tests but there seems to be different protocols to testing which leads to different results. Organic farmers need a way to know what is happening in their soils so they can design crop rotations, apply "inputs" or adapt farming practices that build the soil. Applying N, P, K, is not an option for us. We need to know what a healthy organic soil is and how to achieve it with the help of soil tests. 4) In relation to item 3 above, I would like to see research done to offer a second opinion on some of the organic "inputs" that are being offered to organic farmers. When I hear presentations or read the promotional material they seem like wonderful products and looking at pictures they do seem to work. I have tried some with limited results, but I have talked to other people that swear by them. I would like research done on which soil they may work in the best, under what crop rotation they work in or what crops are more responsive to the inputs. Examples of products are mycorrhizal fungi and calcium sprays. Under what conditions do they work the best? Can the advertising claims be duplicated? 5) Australia is doing research on a product called Twin N, a natural nitrogen fixing bacteria that takes nitrogen from the air for plants. . . . I believe some research is being done in Canada, which is great as it would benefit both organic and conventional producers. It would be great to start trials in Canada and test the product here under our growing conditions to learn how best to apply this product. 6) As mentioned in my survey it would be great to have research done on crop rotations for specific plant/crop problems. -a crop rotation and tillage practices that would manage wild mustard, Canada thistle, quack grass, wild oats. -a crop rotation or management practice that would deter insects like grasshoppers, wheat midge, etc. I have been told that if the BRIX number of a crop is above 10, grasshoppers won't eat it as they have no pancreas and the sugar in the plant will turn to alcohol and they will die. I would like research to back that up and then advise on what a farmer can do to increase the BRIX number of the crop either through crop rotation or inputs like calcium sprays and mycorrhizal fungi or crop variety, etc. 7) Some long term economic studies need to be done that show the viability and sustainability of organic farming to encourage farmers to transition into organics. I am afraid with the current high prices for crops and the age of the average farmer in Sask. it may be hard to encourage farmers to transition into organics. Transitioning farmers need to know there is more than financial rewards there is also environmental and lifestyle benefits. I have included my name and email address in case there are some answers to my questions that I have not found yet or someone may have additional questions on what I have presented above and on my surveyThank you; [contact info removed]

- I have been certified since 2002 plus 3 years before and I have never enjoyed farming as much as I do now. All of the stresses of plant pests, applying fertilizer, weed control with sprays used to be a major stressor. We now get paid real dollars for our product and enjoy growing all crops. I also produce beef cattle and a small feedlot but do not yet sell organically.
- Crop production is easy. Marketing is difficult. Value-added is extremely challenging (selling flour, oil, meat)
- New farmers probably worry more about weeds, being deprived of herbicides, but the longer you farm organically, the more some weeds build up. We have an ongoing battle with Canada thistle, and seem to be losing the battle with wild mustard. Wild oats are under control. Stinkweed has been bad since 2006 when we couldn't cultivate in the spring due to flooding. This is a problem for fall seeded crops especially.
- I would like to see the organic industry promote smaller operations (eg. 10-12 quarters maximum) thereby getting more people in rural areas. Also to promote ideas of shared equipment between producers to cut production expenses.
- Our income is strictly from selling our calves in the fall. Being there is no market for organic calves we have never been certified because there is a cost for certification but no financial benefit when we sell our calves.
- I feel a mixed farm fits best for organic agriculture and a model could be developed that would be most practical to sustain itself and the family. This would help young people see that organic

agriculture was an alternative for them and their family to farm if they wished and provide healthy food for the rest of us.

- Marketing
- I believe the next big challenge will be food production without fossil fuels so that the research should move us to more local exchange and smaller scale.
- More honesty of grain buyers
- This will probably be my last year farming. I believe organic is the way to go and would like to see more farmers going into it.
- 2008 will be year 4 for me. I am trying to start full time for 08 or 09. Thanks for helping me when I call!
- Thanks for the survey
- I feel that soon Organic Bodies have to cover all aspects of a farm. But some do not have common sense when making up their policies. Make up simple rules and enforce them let the farmer farm his land his way from these rules.
- I'd like to see farm scale research and biomethane production for electricity and biodiesel for individual farmers. Also compost heat recovery for winter greenhouses. Has to be low cost and farmer friendly.
- Nothing that hasn't been covered already.
- We have to create new plant varieties that produce their own fertilizer and pesticide, herbicide and high nutrient levels so everyone can become an organic farmer.
- Although I have indicated my age as 50-59 it is our daughter age 29 who is the driving force behind our organic operation.
- Marketing is weak; but more importantly: demographic shift indicates that Saskatchewan organic producers will be more urban and suburban than in the past.
- 1-More researchers like [a certain researcher] - able to get his relevant data across quickly with genuine interest and excitement 2-Less researchers like [a certain researcher] - All introduction and no data . . . Unless you are short on sleep
- We must have dollars on the farm. We have volunteered our farm to Crop Insurance, no interest. We are Pedigreed seed growers (Organic) and I have three sons that have started farming.
- more organic info in the Western Producer "very good survey"
- Producers should be driving all the research planning with the help of technical advice, i.e. Science based arguments. Producer Board is the way to achieve this, although must at all costs be non-political*
- Good job. Inform more people about opportunities in organics.
- Research scholarships funded by the federal government to compete with all the agri-business dollars funding chemical research.
- Because I have been busy operating another business I haven't had much time to spend studying everything on organic.
- We need reliable long term rotations for the main crops grown in Saskatchewan keeping soil zones, fertility and sustainability in mind. Try to keep it simple and avoid running off in all direction. . . as the above option menu suggests. We have practically no research at present . . so we should walk before we run.
- High input organic farming is no more sustainable than high input conventional farming. We need to develop production methods and crops that depend on nature to supply the inputs. More research should be done on low input, sustainable production systems.
- Personally speaking, I need mentoring in crop monitoring skills such as the use of refractometer and soil and crop quality instruments and techniques. My belief is if you get your soils right, then all else follows.
- Need to get more old grain varieties used that still have the root systems and hardiness