

Research Needs Assessment of Alberta Organic Farmers



Organic Agriculture Centre of Canada

November 2008

Acknowledgements

Thank you to all of the producers who took time to fill in the survey and convey their opinions and insights. The response from so many farmers at such a busy time of year (late winter/spring) was truly appreciated.

As this was part of a national process, distribution of this survey would not have been possible without assistance from associations and government partners across the country.

- In **British Columbia**: the Certified Organic Association of British Columbia
- In **Alberta**: Alberta Agriculture and Rural Development
- In **Saskatchewan**: the Organic Crop Improvement Association, Eco-Cert, Organic Producers Association of Manitoba, Pro-Cert and Quality Assurance International.
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- In the **Maritimes**: the Atlantic Canadian Organic Regional Network

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Agriculture and Agri-Food Canada (AAFC) is pleased to participate in the production of this OACC Canadian Organic Needs Assessment Survey. AAFC is committed to working with our industry partners to increase public awareness of the importance of the agriculture and agri-food industry to Canada. Opinions expressed in this document are those of OACC and not necessarily those of AAFC.



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Executive Summary

A total of 245 research needs surveys were distributed to organic farmers in Alberta with a 22% response rate. The top research needs identified in this survey and similar surveys in other parts of Canada will be used to inform a prioritization process for research projects in different sectors.

Field crop production dominated the production systems of survey respondents (76%), followed by livestock production (41%), and horticulture production (19%). Many respondents were involved in more than one production sector.

Many producers were relatively new entrants to organic agriculture: 50% had 10 or fewer years in farming and only 21% have been farming organically for over 15 years. Despite the large number of new entrants, no farmers were in the 'under 30 years old' age category and most farmers (82%) were over the age of 50. These statistics suggest that many respondents had entered organic agriculture later in life, either after farming conventionally or as a second career.

The top rated research needs in crop production emphasized holistic management systems including soil quality, crop rotations, and weed management issues. *Crop rotation and green manures for soil fertility and soil biology – management to improve existing soil life* were top rated issues in soils. *Rotations and weed control* were the top areas of concern among plant-related issues; weed-related issues made up four of the top seven plant-related research areas. Other plant-related production issues, disease and insect controls, were generally ranked lower and in both cases cultural controls were considered more important than other approaches such as biological controls. *Breeding/testing varieties* was ranked of moderate importance and *specialized equipment for organic systems* ranked fairly low among plant-related production issues.

Among animal-related issues, *breeds* and *parasites* were the highest rated issue of concern for livestock producers. Respondents commented on the need for breeding research for temperament/ease of handling, and parasite research for organic controls and treatments.

In the production economics section, *Value added research* ranked as the top need, followed by research on the economics of *grain production*, *livestock* and *mixed farm production*.

Quality and nutrition of organic foods scored high in the overall analysis. Specific products of interest identified most frequently by respondents included oats, wheat, barley, rye, pasture-raised meats and a variety of fruits and vegetables. *Soil quality* was the highest ranked issue in the survey section on the contribution of organic to sustainability and was the second highest ranked issue overall. *Pesticide reduction* was also ranked highly among sustainability issues.

Overall producers were most interested in having *research conducted on organic farms*. *Research conducted using farm scale equipment* and *producer/researcher collaboration* were ranked equally for second priority overall for research management issues. Having a *producer board determining direction of research dollars* was rated the lowest in this group.

The top two post-production priorities for survey respondents in Alberta were *consumer education on organic benefits* and *information on commodity prices and volumes*. *Consumer education on organic standards* was also highly ranked and the third priority. These three concerns were ranked highly among all needs in the survey. Market information (along with the number two concern) *information on buyers/brokers* and *information on market trends and demands* were ranked high. Overall processing concerns were ranked lower than marketing needs.

Factsheets on organic farming practices were the preferred means of extension/technology transfer. The second ranked need varied among producer types; overall, *field tours* was ranked highest by field crop producers, *conferences* of equal importance to livestock producers as *field tours* and *receiving information through websites or email* the priority for horticultural crop producers. Ranked lowest were College or University programs including distance education.

In Alberta, the barriers to growth of organic identified by survey respondents were consumer education, issues relating to certification/regulations, marketing difficulties, and cost to producers and consumers. There was optimistic response to opportunities for the future growth of organics with respondents noting increasing consumer awareness and interest in health and the environment the main factor.

1. Introduction

The foundation for growth in the organic sector has always rested on the farmers who have brought organic to the forefront of agriculture. The development of organic in Canada rests firmly on the success of the farmers. In considering this, the Organic Agriculture Centre of Canada (OACC) has endeavored to consult with organic farmers whenever possible to identify barriers and opportunities that can be addressed by Canadian research. The OACC has worked closely with the Expert Committee on Organic Agriculture, which includes representation from across the country and from all sectors of organic, to identify research priorities.

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 to conduct a survey of organic producers in Canada, asking them to rate the importance of different areas of research and to provide comments on research needs and other issues facing the organic sector. This report summarizes the findings of the Alberta portion of the survey results and is complemented by reports for other provinces or regions and a national report.

1.1 Survey Description

This survey was part of a national process, using almost identical surveys across Canada with slight modifications for regional interests. The survey primarily included questions relating to production (soils, crops, pests, livestock) but also included sections on production economics, marketing, quality and nutrition of organic food, sustainability, design of research and extension needs (see Appendix 1). Producers were asked to rate the importance of various types of research, from 1 to 5. Each set of questions included space for comments; direct quotes from comments are in quotation marks and italics in the report. Producers were also asked production and demographic questions to aid in interpreting their responses. The respondents were asked for input on as many or as few sections as they desired to fill in. If someone chose not to respond to a question, it was not included as part of the analysis. The number of respondents who responded to a specific question is referred to as "n" in the survey analysis.

This report deals with several major topics, corresponding to the organization of the survey. Reporting of ratings and comments in this report follows the same general approach as the

OACC national report (*Final Results of the First Canadian Organic Farmer Survey of Research Needs*, OACC, 2008). Where appropriate, the national report and the Manitoba report share entire passages of text. Data for Manitoba may differ slightly between the national report and the Manitoba report because of slight differences in certain analyses and because surveys returned late were included in the Manitoba report. The format of the Manitoba report and reports for the provinces of Saskatchewan and Alberta are very similar to facilitate comparisons between provinces. The national report and other provincial reports can be found at www.oacc.info.

1.2 Survey Distribution and Response Rate

With the assistance of our partners, OACC distributed 245 surveys to organic or transitional producers in Alberta. There were 56 surveys returned, corresponding to a **22.9%** response rate.

1.3 Respondent Demographics

The majority of respondents came from grey soil zone (41%) with fairly even distribution of remaining respondents between brown (16%), dark brown (23%) and black (18%) soil zones.

Respondents were classified into three major production sectors based on their indication of which organic products they currently produced and which they intended to produce in the near future (Table 1). Major sectors were field crops, livestock, and horticultural crops. These major sectors were broken down into more specific production sectors for some analyses. The analysis of the data by sector means that a producer with a mixed farm could be considered as part of the field crop, livestock, and horticulture sectors, for example, and their ratings of subject areas in the survey would be considered for all three categories. However, their answers would only be considered as one response in the analysis of all data combined.

Table 1. Summary of 56 respondents by sector and product.

	Current producers	Future producers*	Total producers: current plus future		
			Number	% of all respondents	% of sector
All			56	100%	
Field crops	38	5	43	76%	
Cereals	38	5	43		100%
Oilseeds	17	2	19		44%
Pulses	11	3	14		32%
Forages	32	2	34		79%
Horticultural crops	9	2	11	19%	
Fruit	5	1	6		55%
Vegetables	7	3	10		90%
Herbs/spices	2	2	4		36%
Livestock	23	0	11	41%	
Beef	20	0	20		87%
Bison	2	0	2		8%
Dairy	1	1	2		8%
Swine	4	1	5		21%
Sheep	3	0	3		13%
Poultry	6	0	6		26%

*Includes only those who indicated plans to produce in the future but no current production in that category.

The majority of respondents (76%) were producers of (or planning to produce) **field crops** followed by **livestock** producers (41%) and producers of horticultural crops as the smallest sector at 19% (Table 1).

Cereals were grown by 100% of field crop producers followed by forages, which were being produced by 79% of field crop producers. Interestingly over 1/3 of forages were produced by farmers who did not produce livestock. Vegetable growers represented the greatest percentage of horticultural crop producers at 90% (or 10 of 11 growers). Dominant in the livestock category were producers of beef (87%) followed by poultry with 26% of producers.

The majority of respondents indicated participation in more than one production sector, suggesting that a large proportion of organic farms in Alberta are mixed operations. The average farm size for Albertan respondents was 1216 acres and average certified organic acreage at 1142 acres (Figure 1). Average cultivated area was 650 acres and average cultivated certified organic area was 602 acres. Average area devoted to pasture/grazing was 408 acres of which 406 acres were organic. The category “other” had an average of 157 acres, and 133 average organic acres which had various applications or was not specified by respondents.

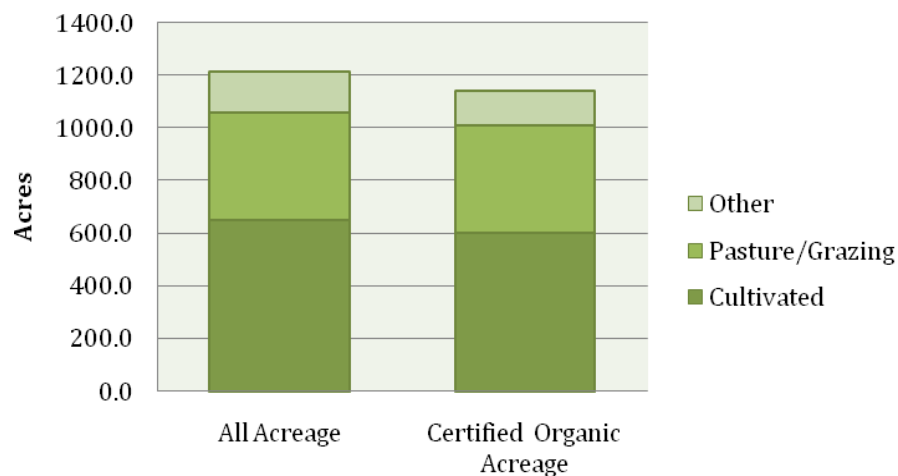


Figure 1. Average acreage by type among respondents.

Farm size by sector was calculated in an inclusive manner (Figure 2). The Horticulture sector, for example, included all producers of horticultural crops regardless of what other crops or livestock they produced. Average farm size for field crop producers was 1222 certified organic acreage (many livestock and horticultural producers also grew field crops). Livestock producers had the largest average farm acreage at 1514 certified acres and horticultural crops the smallest with 588 certified acres (Figure 2).

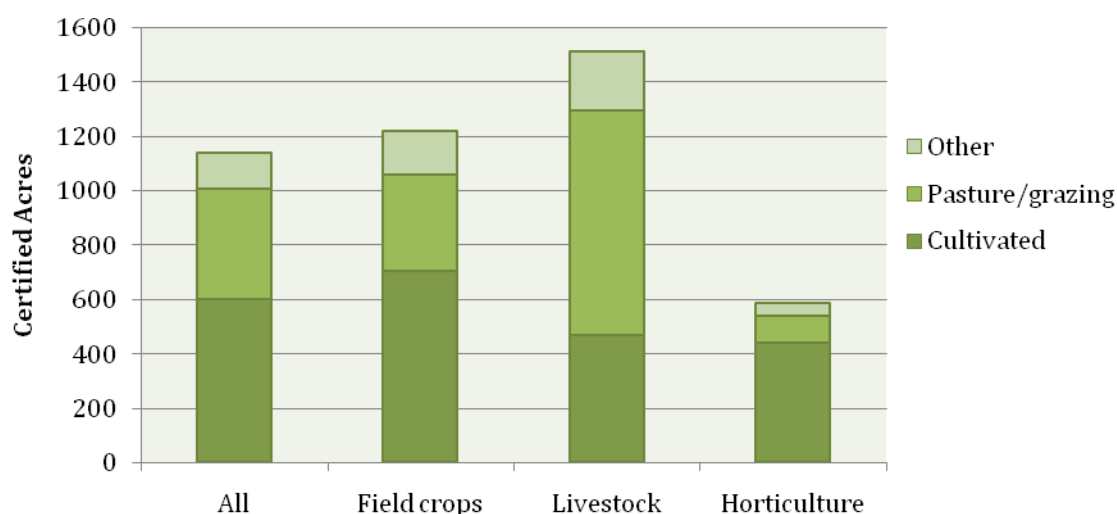


Figure 2. Certified organic acreage of respondents by agricultural sector.

Sixteen percent of respondents were in the largest income category of over \$250,000. Operations of \$25,000-\$50,000, \$50,000-\$100,000 and \$100,000-\$250,000 were fairly evenly divided at 24%, 22% and 27%, respectively. Only 11% of respondents had incomes of less than \$25,000 (Figure 3).

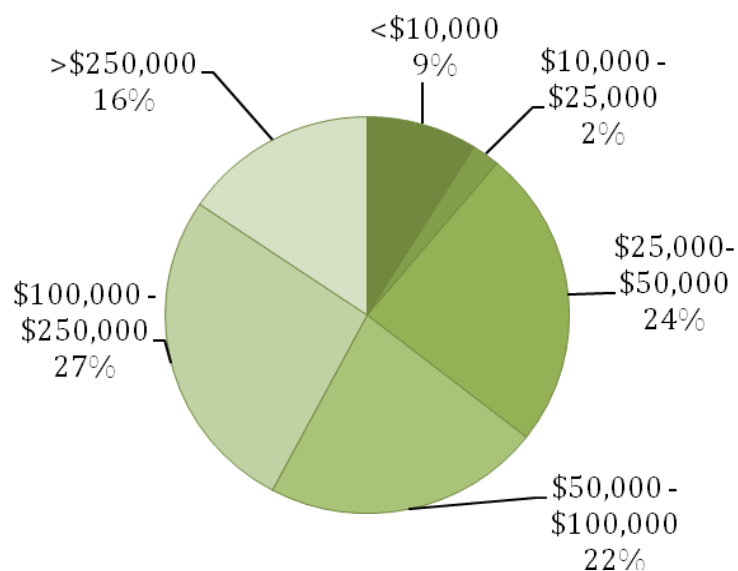


Figure 3. Gross farm income by income category.

Fifty percent of respondents were relatively new entrants to organic agriculture with 10 years or less experience. Forty-two percent of respondents had been farming between 11-20 years and 8% of respondents had been farming organically for over 21 years (Figure 4). Despite the large number of recent entrants no respondents were in the age category under 30 years old, suggesting they had previously farmed conventionally or have taken on a organic farming as second career, lifestyle choice, or hobby. The majority of farmers (70%) were between the ages of 50 and 69, 18% between the ages of 30 and 49 and a notable 12% were over the age of 70 (Figure 5).

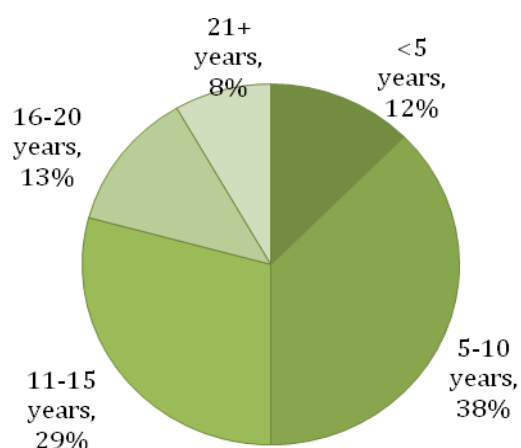


Figure 4. Years in organic production.

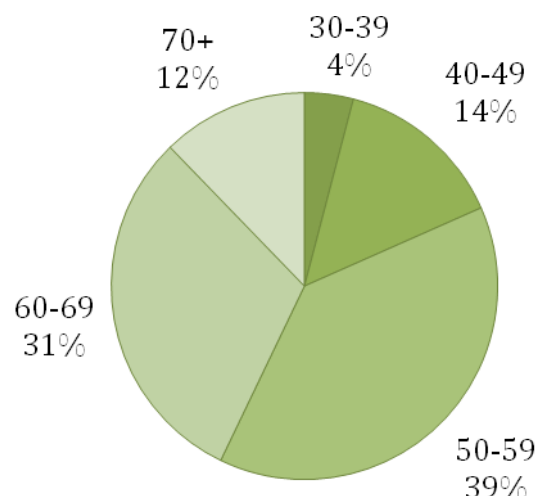


Figure 5. Producer age by category.

Overall, 78 % of respondents identified themselves as male and only 14% as female. Eight percent of respondents included a partnership of both genders.

2. Production Research

In the survey we asked producers to rate the importance of issues from one to five. Not all respondents answered every question. The number of responses can also be seen as an indication of the importance of an item.

The survey included questions on 11 major subject areas related to organic production research, including soils, several topics in crop production, livestock production, production economics, food quality and nutrition, and sustainability. For each of these sections, respondents were asked to rate the importance of the category as a whole, as well as more specific subject areas within each category.

When all responses were considered, the top production research concerns involved *animal health and nutrition*, *soil fertility and quality*, *management of weeds* and *crop rotations*. Less than 20% of livestock producers responded to the animal health question (n=4) however

those who responded ranked it as the top concern. *Specialized equipment for organic production* ranked poorly and had fewer respondents.

Table 2. Ranking of Research Needs Categories (i.e. general categories) by all respondents.

Ranking	Category	Average Score ^z	n ^y
1	Animal health and nutrition	4.75	4
2	Managing soil fertility and soil quality/health	4.74	46
3	Managing weeds	4.61	44
4	Crop rotations	4.60	48
5	The contribution of organic to sustainability	4.53	40
6	Quality and nutrition of organic foods	4.46	39
7	Production economics	4.34	41
8	Breeding/testing varieties for suitability in organic systems	4.13	38
9	Managing crop diseases	4.07	42
10	Managing crop insect pests	3.72	43
11	Specialized equipment for organic production systems	3.52	31

^z Average score indicates the average importance rating of all individuals who responded to the question; 5 indicates a very important need, 1 indicates a less important need.

^y 'n' is the number of respondents who answered each question. Blank responses to a question were not included in calculation of the average score, hence the variation in the number of respondents to each question.

Ratings for all individual production research subject areas were also compared and are listed in Table 3. Marketing concerns were three of the top 15 concerns, with *consumer education on organic benefits* ranked as the number one concern for Alberta farmers overall. Other top research needs correlate to responses in Table 2, with *animal health and nutrition* concerns holding the second and fourth positions with *Livestock breeds* and *parasites*, respectively. *Soil fertility and crop rotations* was ranked third overall, with other soil quality and plant rotation/weed control concerns ranking high in priority (Table 3). Subject area rankings will be explored in greater depth in the following analysis of each research category.

Table 3. Top 15 research needs ratings of specific subject areas among all respondents (out of 45 subject areas in total).

Ranking	Category	Subject Area	Average Score ^z	n ^y
1	Marketing	Consumer education on organic benefits	4.74	47
2	Animals	Livestock breeds	4.70	20
3	Soil	Soil fertility and crop rotations	4.61	44
4	Animals	Livestock parasites	4.61	18
5	Plants	Rotations for weed control	4.60	48
6	Ecological Systems	Soil quality	4.56	40
7	Plants	Canada thistle control	4.54	48
8	Soil	Biology - improve existing soil life	4.53	49
9	Plants	Beneficial rotations for specific problems	4.52	46
10	Marketing	Information on commodity prices and volumes	4.52	50
11	Animals	Livestock feed	4.50	19
12	Marketing	Consumer education on organic standard	4.49	47
13	Health and Food Quality	Quality and nutrition of organic field crops	4.49	35
14	Ecological Systems	Pesticide reduction	4.47	39
15	Plants	Cultural weed controls	4.47	47

^z Average score indicates the average importance rating of all individuals who responded to the question; 5 indicates a very important need, 1 indicates a less important need.

^y 'n' is the number of respondents who answered each question. Blank responses to a question were not included in calculation of the average score, hence the variation in the number of respondents to each question.

2.1 Soils

Crop rotation and green manures for soil fertility was identified as the top research need for the soils category (Figure 6). This was also ranked as the number three concern overall in top 15 research needs identified (Table 3). Management of *soil biology to improve existing soil life* was ranked second in the soils category (Figure 6), and eighth in the top 15 research needs (Table 3). Compared to these top two concerns other soil categories were not ranked as highly important research concerns. *Soil biology (adding living organisms)* and *minimizing soil erosion* were ranked equally as the third highest research need in soils (Figure 6). Groups differed slightly in the ranking of their concerns: for livestock producers their top concern was *soil biology management* followed by *manure management* as their secondary concern. With the exception of the top few soil research concerns, horticultural producers overall ranked all soil research categories lower than other producer categories.

Specific comments for research interests in soils included manure management for green manure, hemp in soil fertility, potential for using rye straw and alfalfa as a calcium input, effects of burning weed crops on soil microbiology and pH balancing. Under soil chemistry specific interest was mentioned for research in Ca, Mg, K, S, B, rock powders and information on locally sourced amendments.

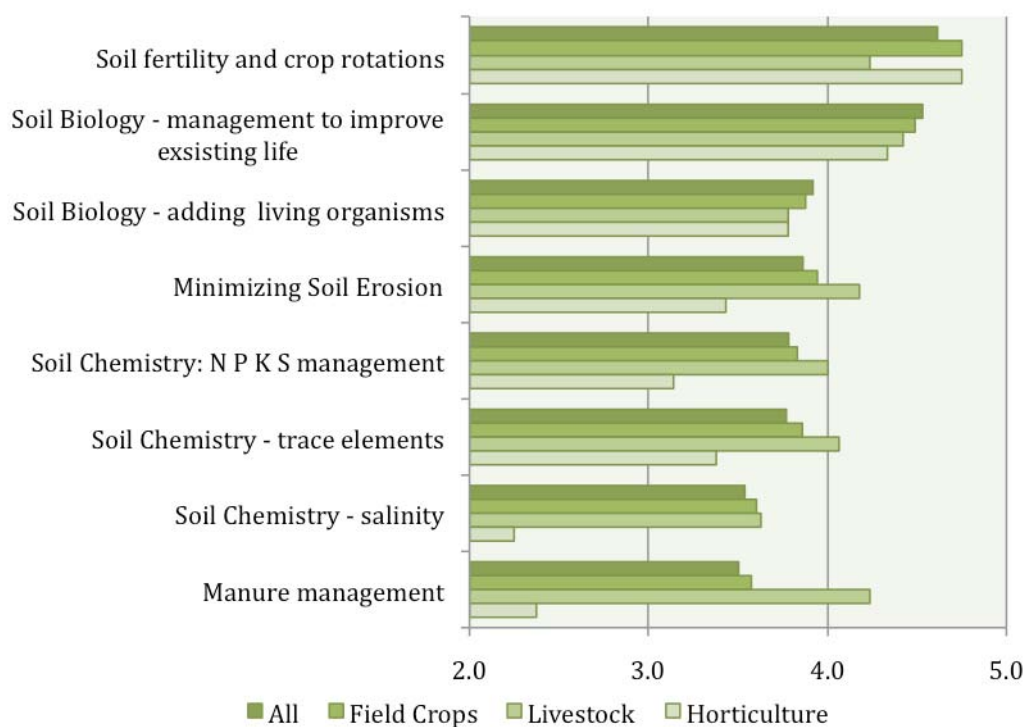


Figure 6. Research needs ratings for soil-related issues by producer category. A rating of 5 indicates a very important need, 1 indicates a less important need.

2.2 Plants

The top two plant related issues were *rotations and weed control* and *Canadian thistle* (Figure 7). These were ranked fifth and seventh in the top 15 plant research needs overall (Table 3). Overall weed control and crop rotation issues were of primary concern over disease and insect control issues. For both weed, insect and disease controls, cultural controls were ranked highest over biological and other control methods (Figure 7).

There were differences in ratings amongst producer types, the most evident difference was with horticultural crop producers ranking a number of topics higher than other producers, the most notable being *specialized equipment for organic systems*. Livestock producers ranked *wild mustard* research of higher priority than other producer types.

2.2.1 Weeds

Most areas of weed research were ranked highly, with *rotations and weed control* and *Canada thistle* control research ranking the highest of all plant-related research topics. Of least importance in managing weeds was *wild mustard research* and *organic herbicides*, however, wild mustard was noted to be of higher concern for livestock and field crop producers than horticultural crop producers (Figure 7). Other specific weeds mentioned requiring control programs included wild oats (highest number of comments), buckwheat, ladies thumb, quack or couch grass, chickweed, round-leaved mallow and others. Other weed research suggestions from respondents included investigating the relationship between soil health/fertility and weeds, and investigating possible marketable uses of problem weeds.

2.2.2 Insects

Management of crop insect pests was not a high priority for most Albertan producers. The horticultural sector was more interested in insects than other sectors, but overall ranked insect-related issues lower than weeds and diseases (Figure 7). Few comments were received with regards to specific insect research interests with comments of '*very little problems*' made. Interests did include use of '*material controls*' in place of spraying insecticides and researching the '*effects of chemicals on earthworms*'.

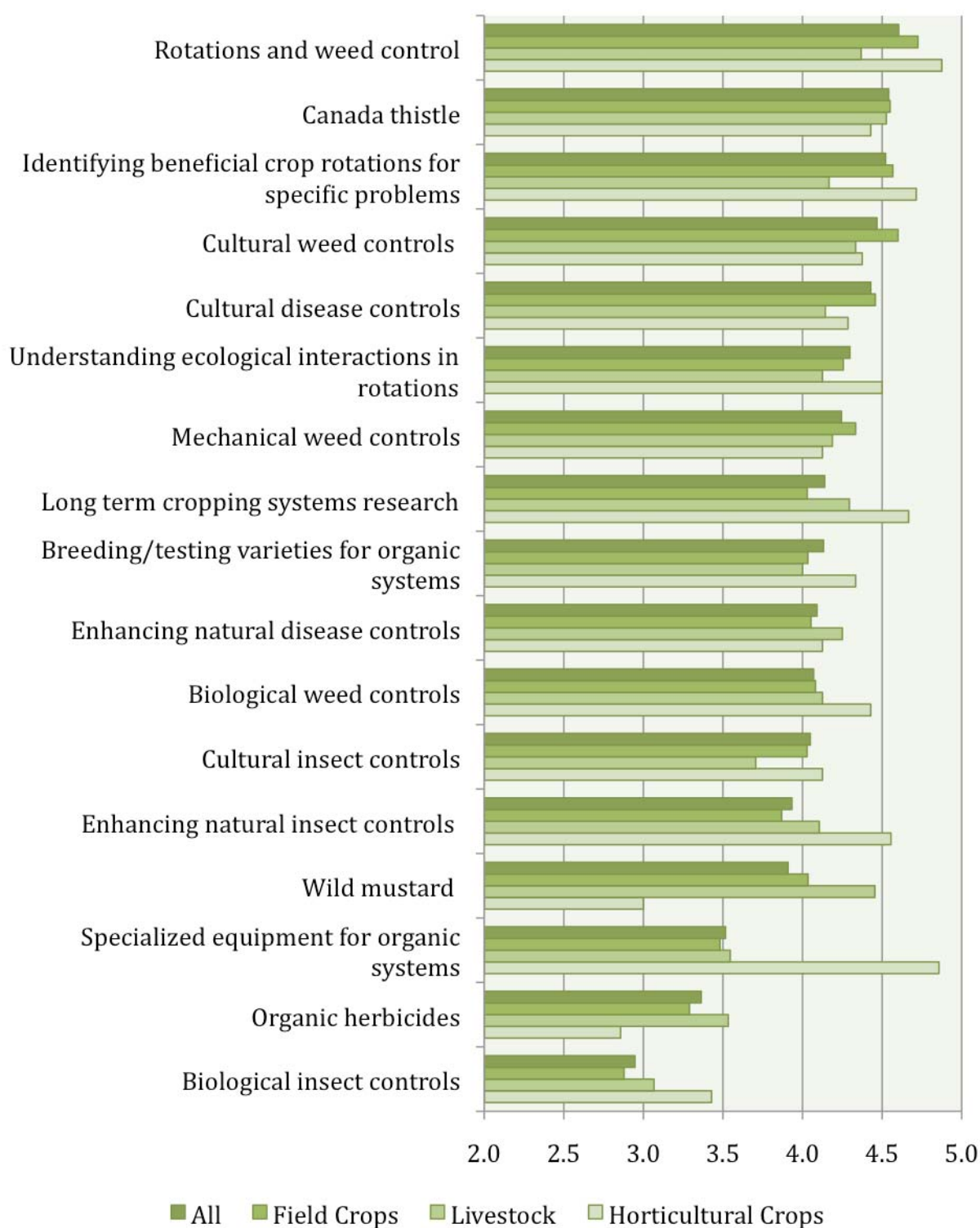


Figure 7. Research needs ratings for plant-related issues by producer category. A rating of 5 indicates a very important need, 1 indicates a less important need.

2.2.3 Disease

Research for *cultural disease controls* was ranked fifth highest for plant-related issues overall, considered more important than *enhancing natural disease controls* by all producer types except livestock producers (Figure 7). Few additional comments were made by Albertan farmers for research on disease, however one producer noted a limited understanding for methods of organic disease control other than rotations. There was also specific mention for diseases affecting garlic (i.e. white rot) and oats.

2.2.4 Crop Rotations

All three topics of crop rotation research (*identifying beneficial crop rotations for specific problems, understanding ecological interactions in rotations and long term cropping systems research*) ranked highly, though identifying beneficial crop rotations for specific problems was ranked the highest overall (and the number three plant-related concern) (Figure 7). Horticultural crop producers ranked crop rotation research of higher importance overall compared to field crop and livestock producers. Other crop rotation research interests included information on rotations/crop varieties that are region specific (and different soil zones), companion planting, the ideal rotation for alfalfa hay and short season crops.

2.2.5 Varieties for Organic Systems

Breeding/testing varieties for organic systems was ranked (generally) below weed control and crop rotation concerns, but above insect control concerns (Figure 7). There were many respondent comments to the question of which crops should be targeted for testing which included cereal crops: predominantly wheat, followed by oats, barley, flax, rye and spelt. There was also high response for alfalfa, and some response for canola, clover, peas, soybeans, oilseeds, potatoes, corn and other greenhouse crops. As well, suggestions were made for researching heritage varieties versus modern varieties and varieties specifically suited for areas in Alberta.

2.2.6 Specialized Equipment for Organic Systems

Overall Alberta respondents ranked *specialized equipment for organic systems* low on the list of crop-related issues, however, horticultural crop producers ranked it as a top research need in the plants section comparable with *rotations and weed control*. When asked what specific types of equipment respondents would like to see researched, many cited the examples given of weed clippers, chaff collectors and crimper/rollers. Other suggestions included equipment to control quack grass, mowers, rod weeders, flaming and weed control in general. There was interest in ground 'prep equipment' or 'tillage benefits' such as spaders versus rototillers, weeder-harrows, rotary hoes, disking and other. Little was noted for harvesting equipment with the exception of one respondent who was interested in green harvesters for edible bay greens.

2.3 Animals

Ratings for livestock issues were calculated for all current and future livestock producers of beef, swine and poultry. Animal health and nutrition was the top ranked production research need of the eleven major subject areas covered in this survey, however it was ranked by a very low number of respondents (n=4) (Table 2).

The top two animal health and nutrition concerns for Alberta were *breeds* and *parasites*; the same top two concerns ranked in the national survey for livestock producers (Figure 8). These were ranked second and fourth (respectively) in the top 15 research need ratings overall (Table 3). Specific comments for research in these two areas included '*breeding for temperament and ease of handling*' and for parasites '*organic parasite controls/treatments for cattle*'.

Feed was ranked as the third highest research need among livestock producers and as a top need by poultry producers (Figure 8). Most comments received were interests in specific topics relating to feed:

- *What amount of oats (as % of feed) can be fed to bison and not alter the good balance of omega & fatty acids?*
- *A ruminant on grain develops e.coli H. What amount can be fed and not upset the balance?*
- *The difference in nutrition on hay that is bailed in summer vs. grass that is left uncut on which animals graze in the fall.*
- *Spreadsheet identifying organic supplements available (Canadian), nutritional weeds of species and advice for balancing rations - winter and summer.*
- *Comparison of grain versus grass regarding taste, health, i.e. - good / bad fats - sustainability.*
- *I would like to see research in grassland dairy, health benefits, both for animal and consumer.*
- *Stopping use of growth hormones and chemicals from GM grains and grasses hops.*

Disease concerns were ranked lowest by poultry producers (over other producer types) perhaps indicating production of pasture poultry, however, they expressed greater interest in manure management and housing than other producer types. Housing was ranked as the lowest priority concern, notably the lowest priority concern for swine producers (Figure 8).

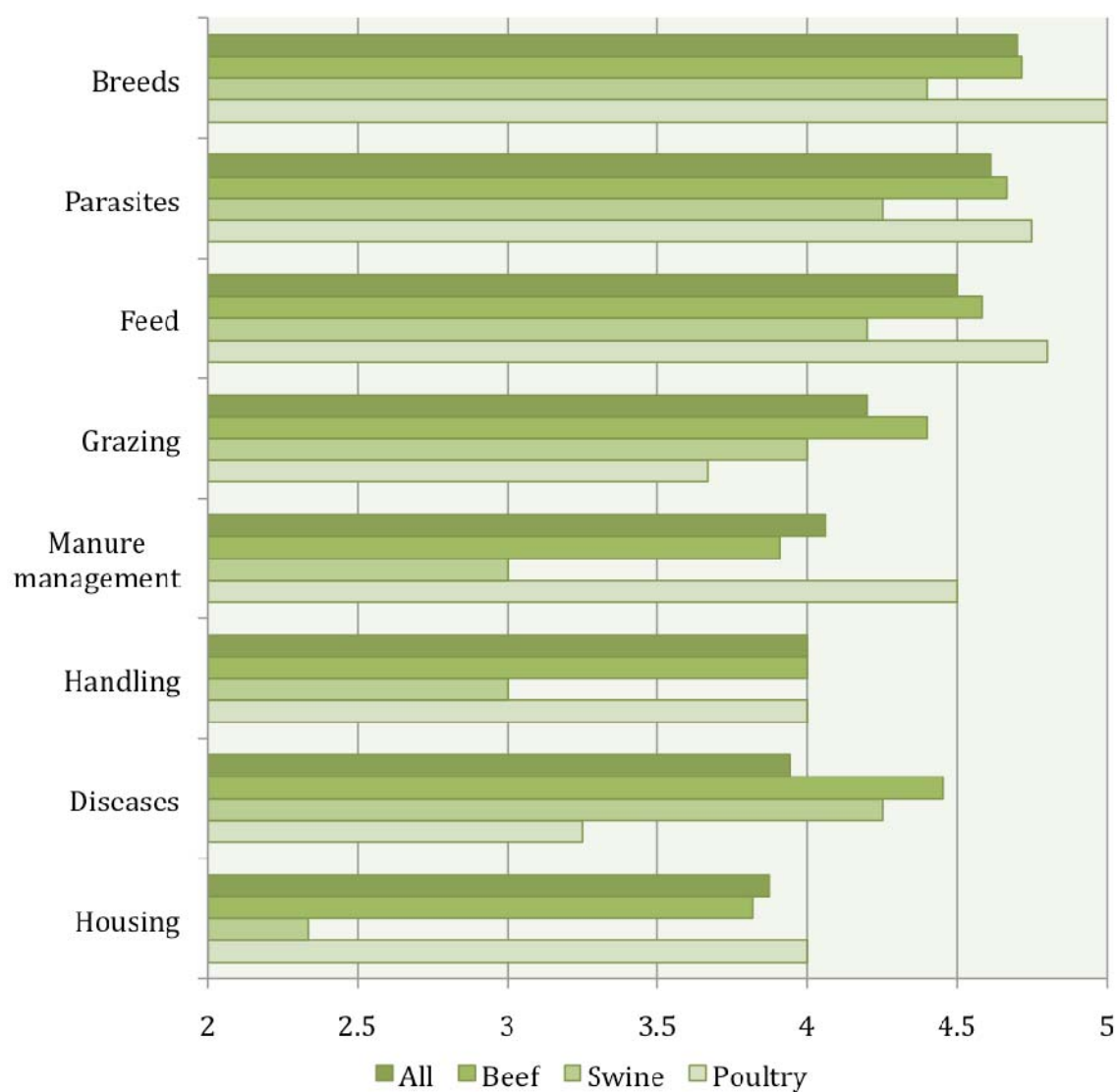


Figure 8. Research needs ratings for livestock issues by major livestock producer category. A rating of 5 indicates a very important need, 1 indicates a less important need.

3. Other Research Needs

3.1 Production Economics

Value-added product research was rated highest in priority overall and rated the top concern by field crop and horticultural producers (Figure 9). *Production economics* subject area ratings were generally rated as a lower research need than most other subjects in the survey, and were sector specific.

Survey respondents were asked to indicate which crops or animals should be targeted for research on production economics. Crops of highest interest were hemp (which was given as an example) followed by camelina. Various vegetables, grains and forages were noted of interest and specific topics such as *'health food market crops such as Echinacea'* and *'uses for problem weeds (i.e. thistle, dandelion).'* Animals mentioned were beef cattle, chicken and bison. When asked to suggest which value added projects they would like to see researched, many respondents echoed the examples given in the question commenting they were *'good suggestions'*; *'cleaning plant'* had the most responses followed by wild oat oatmeal with additional comment of *'more organic breakfast cereals, chewing gum, and organic milk availability for consumers'*. Other interests were in preserves, flours, pressed oils, seed plants, hemp (for twine, diesel fuel, paper etc.), and other plants used for the health food market.

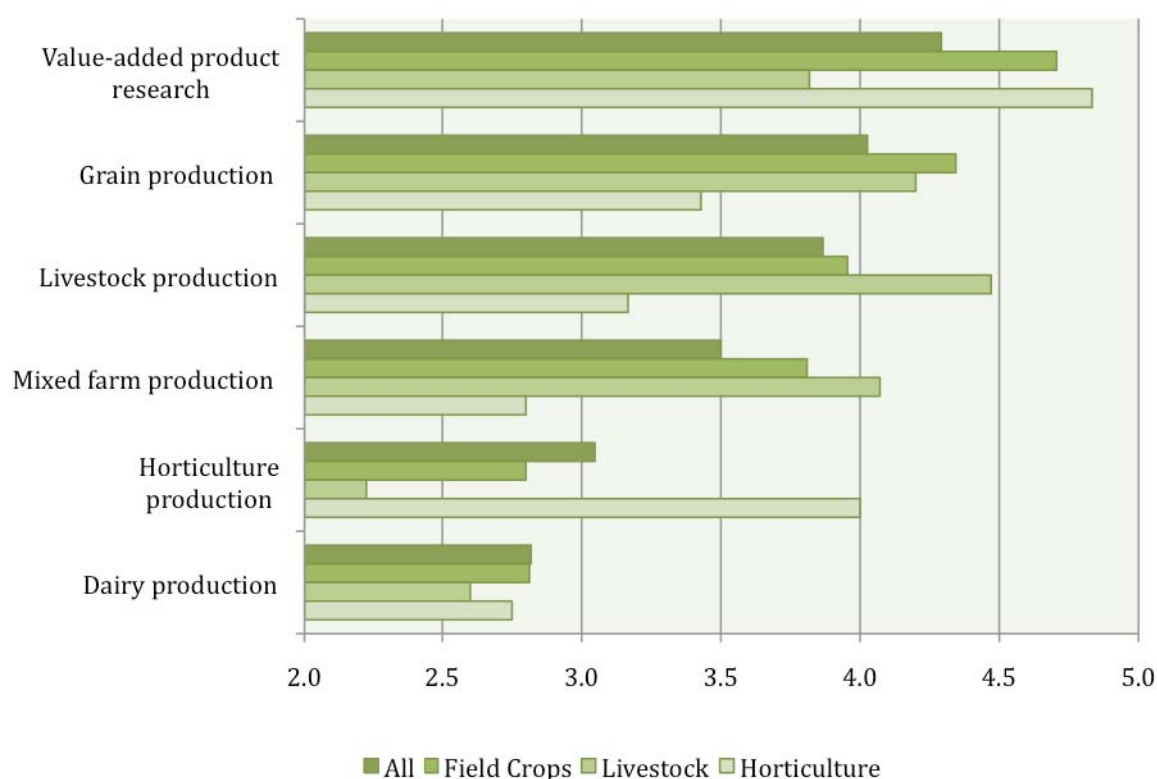


Figure 9. Research needs ratings for production economics issues by producer category. A rating of 5 indicates a very important need, 1 indicates a less important need.

3.2 Quality and Nutrition of Organic Foods

Producers ranked *field crops* as highest priority overall for importance in food quality and nutrition research, followed by *animal products* (Figure 10). Quality and nutrition of organic field crops was also ranked 13th in the top 15 priorities overall (Table 3), lower than the national survey where it was ranked 7th overall. Typically each producer type ranked the category in which they are producing as higher priority for research in quality than other categories, which were not their main production territory. Due to low response rate (n=3) horticultural producers were excluded as a producer group (in Figure 10), however data received was included in the 'All' category.

Many respondents identified specific products of interest. The field crops mentioned (in order of frequency) were cereals, specifically oats, wheat, barley, rye, flax and other crops including clover, alfalfa, pulses, oilseeds and vegetables (lettuce and peas). Animal products mentioned (in order of frequency) were beef, poultry (chicken, turkey and eggs) pork, lamb, goat and interest in dog/cat food. Horticultural crops mentioned were potatoes, peas, carrots, 'prairie hardy apples', various berries (strawberries, raspberries, Saskatoon berries), rhubarb and echinacea.

When asked to suggest other areas of food quality research, interest was expressed in direct comparison between organic vs. conventional produce, smoked meat preservation (without nitrates), and preservative free packaging (shelf life).

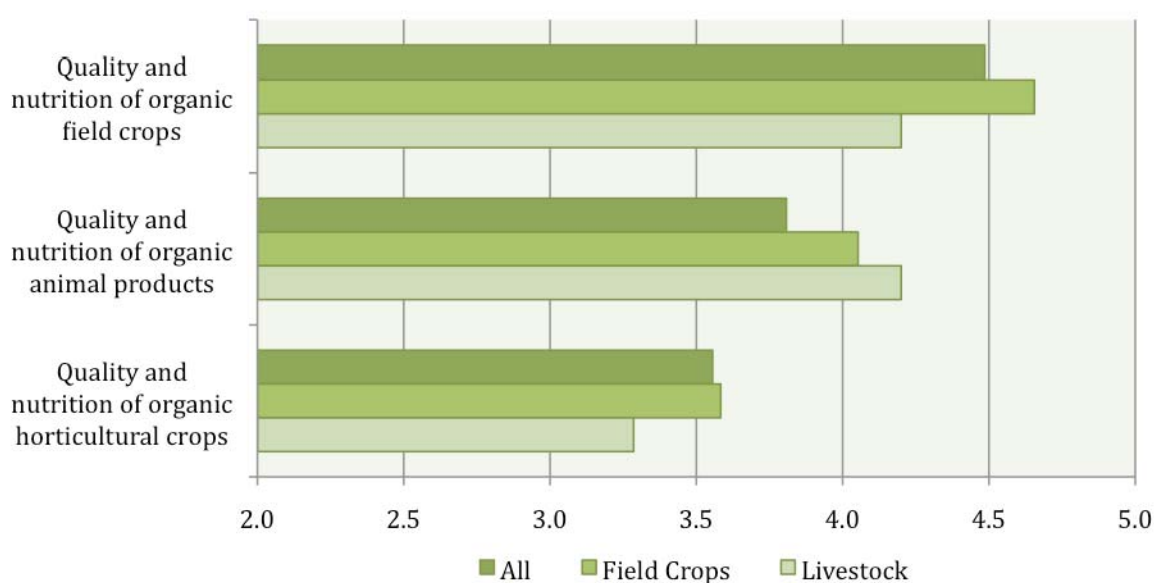


Figure 10. Research needs ratings for health and food quality issues by producer category. A rating of 5 indicates a very important need, 1 indicates a less important need.

3.3 Contribution of Organic to Sustainability

Soil quality was ranked as the number one research need for organic sustainability, followed by *pesticide reduction* (Figure 11). *Soil quality* and *pesticide reduction* were both found in the top 15 research needs overall (sixth and 14th respectively of 15) (Table 3). *Carbon sequestration* received the lowest rating in this category, however, it was ranked notably higher by livestock producers over other producer types. Overall, livestock producers ranked all topics for organic sustainability higher than other producer groups (Figure 11).

Interest for other sustainability research included comments on job creation perhaps with reduced usage of mechanized systems and increased manual labour. One farmer posed the question ‘*are Canadian families staying on organic farms or are they being replaced by corporate farms?*’. Interest was expressed in having more farm programs oriented towards organic farmers (vs. conventional) and research looking into GMO crops and their ‘contamination’ of heritage seed.

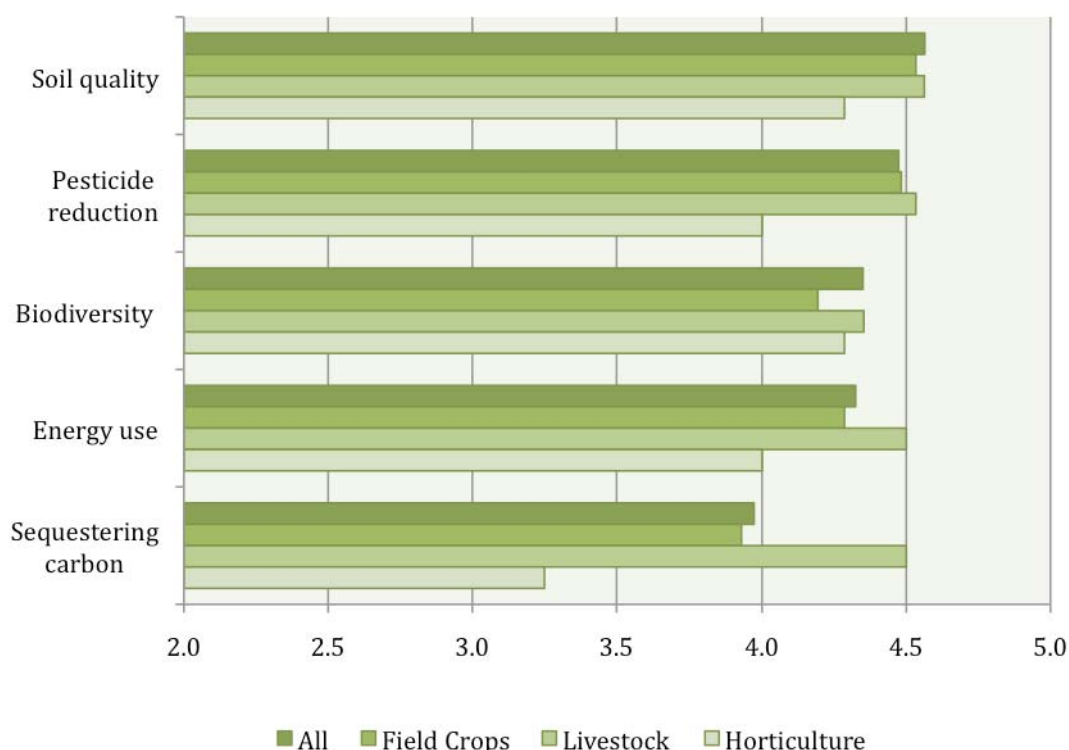


Figure 11. Research needs ratings for sustainability issues by producer category. A rating of 5 indicates a very important need, 1 indicates a less important need.

4. Research Management

This portion of the survey attempted to gauge organic producer opinions about where research should be conducted and the level of involvement of producers in research.

Like the national survey results most Albertan producers were interested in having *research conducted on organic farms* (highest priority) or using *farm scale equipment* (second priority). Producers indicated that compensation would be an important factor for producer involvement, namely recognition of producer time spent on research. Field crop producers rated research using *farm scale equipment* higher than *research conducted on organic farms*. Horticultural crop producers, however, rated using *farm scale equipment* lower than all other options. Livestock and horticultural producers rated *producer initiated research* high compared to field crop producers and compared to the overall response. Also ranked highly by all three producer types was *collaboration with researchers* while research projects with *producer advisory committees* and *producer boards determining direction of research dollars* (overall) were ranked as lowest priority (Figure 12).

When asked for additional comments, overall producers noted the value of public research, the importance of producer input and emphasized the necessity of information transfer amongst farms.

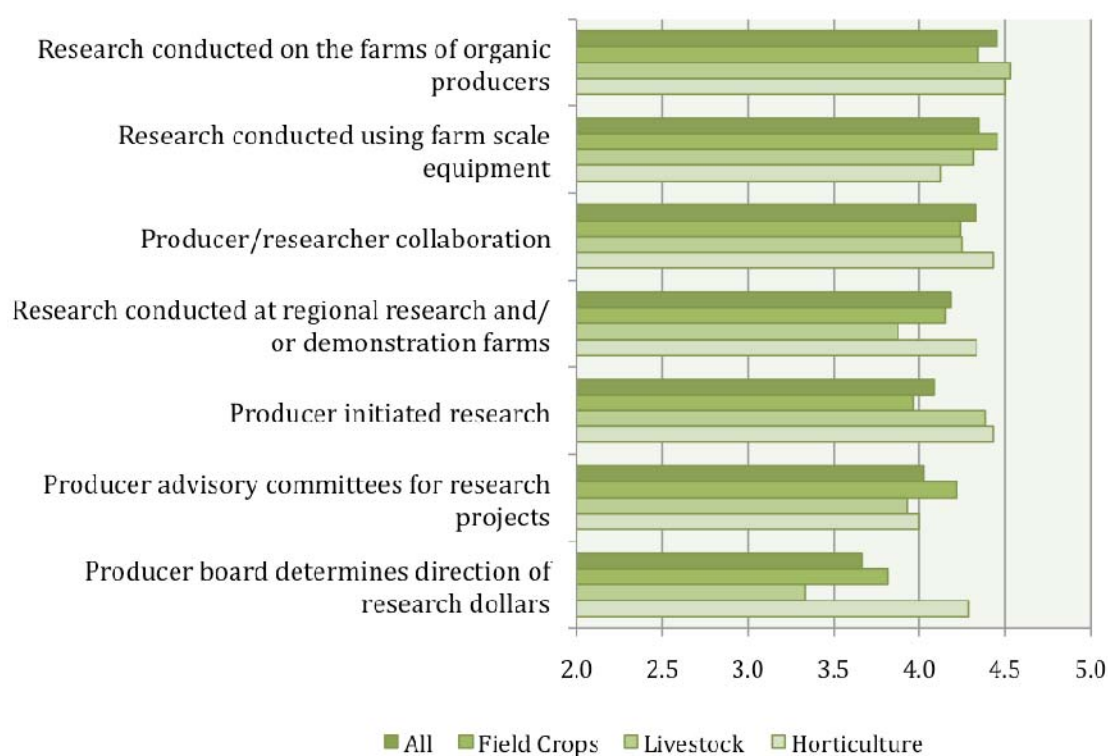


Figure 12. Research management need ratings by producer category. A rating of 5 indicates a very important need, 1 indicates a less important need.

5. Post-Production Needs

The section of the survey on post-production needs dealt mainly with marketing and processing issues. Two of the top three research needs for post-production (marketing and processing) related to consumer education (on *organic benefits* and *organic standards*) (Figure 13). All three of these top concerns were found in the top 15 research needs overall (for Alberta) with *consumer education on organic benefits* as the number one need overall (Table 3). Making up the rest of the top five post-production needs were *information on commodity prices and volumes* (second priority), *information on buyers/brokers* and *information on market trends and demands* (Figure 13).

Overall processing concerns were ranked lower than marketing needs and concerns differed between producer types. Naturally, livestock producers noted greater need for research in *slaughter facilities* and *mobile slaughter* facilities for organic livestock, horticultural crop producers a greater need for research in *processing facilities for organic fruits/vegetables* and field crop growers a greater need for *processing facilities for organic field crops* than other producer types (Figure 13).

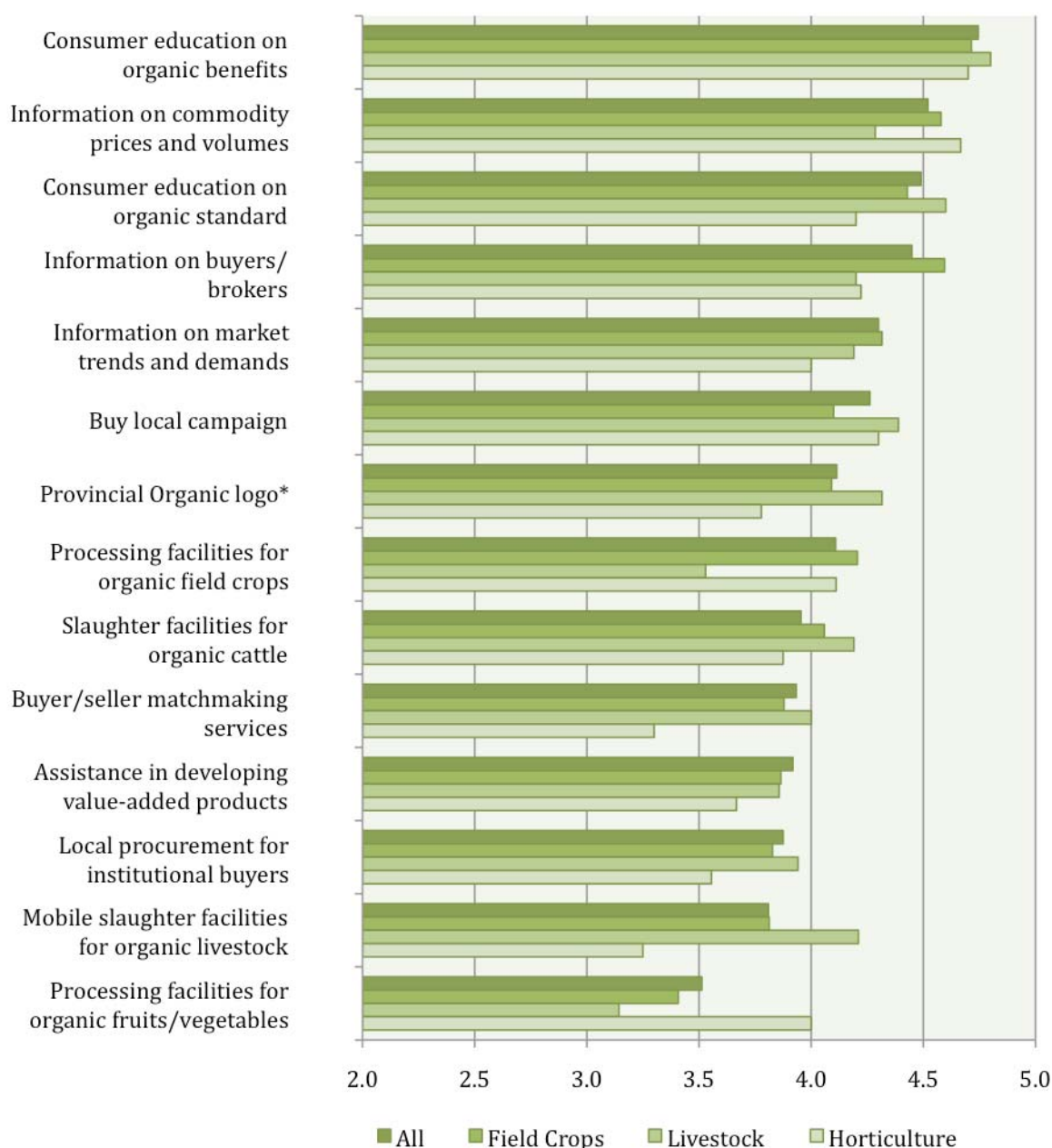


Figure 13. Research needs ratings for marketing and processing issues by producer category. A rating of 5 indicates a very important need, 1 indicates a less important need.

6. Extension/Technology Transfer

Knowledge transfer is a very important part of agriculture, especially organic agriculture. Farmers preferred receiving information as *Fact sheets on organic practices*, which was also the number one preferred method on the national survey. *Field tours* was ranked second priority overall, however, both livestock and horticultural crop producers had ranked other

categories as higher priority needs. Horticultural producers were more interested in *receiving information through distance education, extension courses* and information *accessible on websites or by email* compared to other producer types. Field crop producers also noted *extension courses* among their top priorities. Livestock producers placed greater value in *conferences or producer meetings hosted by extension personnel* than other producer types (Figure 14).

Comments regarding the question “How do you prefer to access information?” resulted in almost equal preference between internet/email and non-electronic methods of mail/factsheet and included a few comments on direct contact via telephone or farm visits. Specific information farmers requested included the provided examples - soil test fact sheets, nutrient planning and buyers' preferences. Other interests included market information (commodity prices and availability), information on rotations, GMO testing, certification standardization, farmer shared information and more education (through advertising) for the consumer on organically produced products.

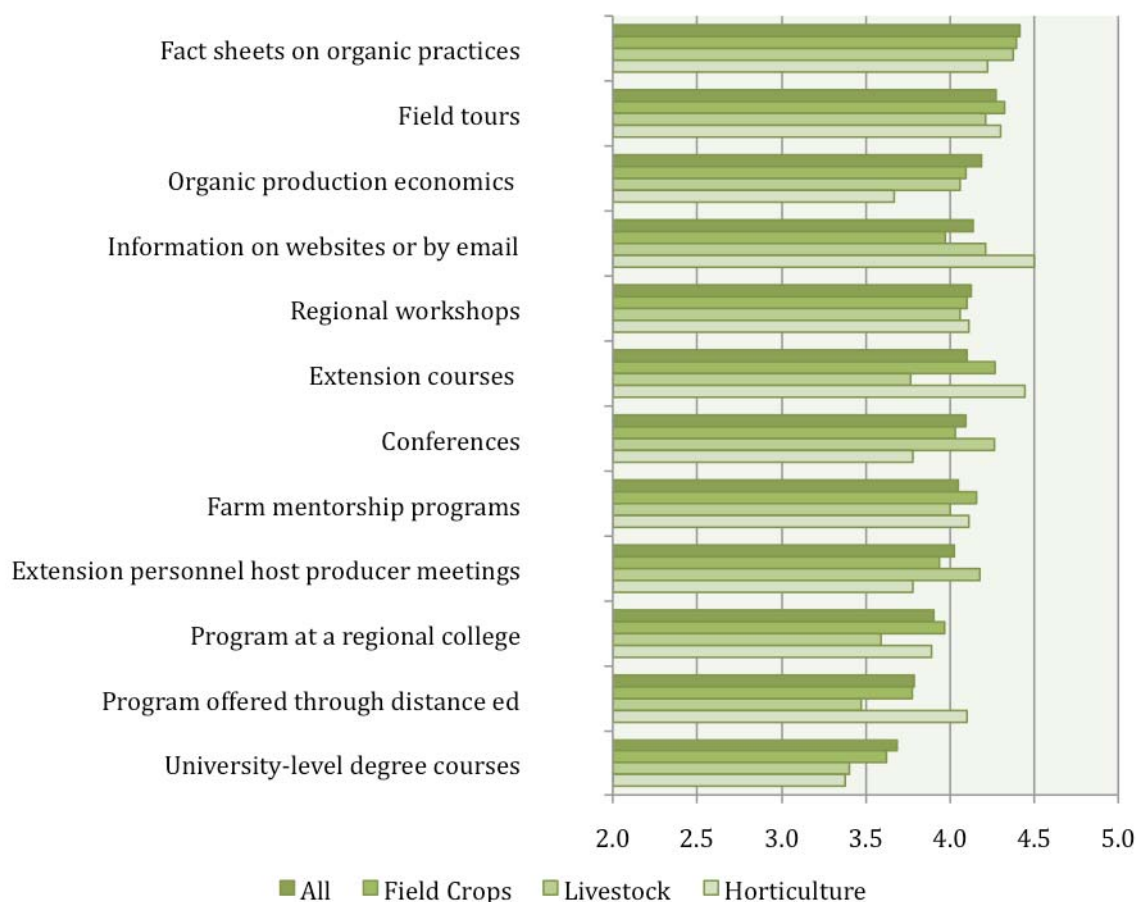


Figure 14. Research needs ratings for extension and technology transfer issues by producer category. A rating of 5 indicates a very important need, 1 indicates a less important need.

7. Barriers and Opportunities for Growth

7.1 What barriers do you see for the growth of organics?

A variety of barriers were presented as concerns by Albertan farmers. Several farmers noted concern over genetically modified products (grains in particular) and the need for products to be labeled as genetically modified products. Other barriers relating to the conventional sector included the promotion of various products such as pesticides and no till fertilizers. One farmer noted the difficulties with conventional farms in close proximity to organic farms and the carryover of pesticide spray use (for example). Large corporation involvement with organic production was another concern, with the comment that they will 'lower quality in favour of quantity'.

Many farmers mentioned concerns with organic standards and the 'watering down of standards' with 'no enforcement of organic standards in Canada'. The issue of 'questionable integrity' with foreign certifying bodies was noted and one suggested a 'universal set of organic standards' as a solution. One respondent recommended that laboratory testing and paper trails should be implemented to ensure the fulfillment of organic standards. Conversely, at least one grower mentioned that there is too much government interference and farmers are being overridden by paperwork.

Several producers mentioned that consumer education needs to be increased, noting that knowledge of organic national standards is insufficient and consumers are primarily concerned with the higher cost of organic produce.

Other concerns were mentioned, such as production costs and pricing of products. Infrastructure costs (machinery, greenhouses, storage) were noted as 'daunting'. Cost to grow the product, cost of quota in supply management systems and prices of feed grains were noted as too high by livestock farmers. Availability concerns for processing were mentioned several times, especially for small scale processing. Small scale livestock producers noted the lack of federal plant access for processing, based on the stringent minimum requirements that are currently in place. Poultry producers were concerned with the lack of federal plant access citing no access for organic producers. Other challenges included difficulties in finding transportation and buyers for organic produce.

Other barriers to organic that were mentioned were the lack of developed marketing systems and a specific mention of the difficulty for new, smaller farms to access the market especially coupled with little training for new entrants to organic agriculture.

7.2 What opportunities do you see for the growth of organics?

Overall there was great optimism in response to opportunities for growth with many indicating plenty of opportunities and large growth prospects. As far as producers are concerned, the possibility of producing organically will also become more attractive as 'costs of inputs continue to trend upward' and increased 'farmer frustration' with chemical input costs.

Emphasis was placed on the important role of consumer education on the future of organic. Farmers predict that as more people become concerned with what they eat, consumption of organic products will continue to increase. Public awareness of concerns with genetically modified products and chemical inputs are part of that consumer education (and the impacts on both food quality and the environment). Programs such as buy local campaigns, farmer mentorship programs, City Farms for Education, sponsored local farm tours and media programs such as CBC were all mentioned as assets in the trend of organic consumption growth. *"With Department of Agriculture support and recognition in Alberta, organic produced here will have a high profile. Demand will grow, and producers realize results for their efforts".*

Also noted was the imperativeness of maintaining organic credibility in the growth of organic; *"As long as consumers remain confident that 'certified organic' is credible" because "people want to know what they are eating and that it is safe".*

8. How do Alberta results compare to the National Survey?

Many trends that emerged from the results of the Alberta survey of organic farmers were also evident in national results. However, there were certain differences between Alberta and Canada as a whole.

A greater proportion of survey respondents in Alberta produced field crops and livestock and a smaller proportion produced horticultural crops compared to the national average. Average farm size was somewhat larger and more land was devoted to pasture and grazing than in other parts of Canada. Gross farm income distribution was somewhat different than the national average, as Alberta has fewer respondents in the lower income categories.

Age demographics showed that there were fewer Albertan farmers under the age of 50, and more over the age of 60 in comparison to the national average. There were also far less respondents farming organically for less than five years and more whom had been producing organically for over 10 years in Alberta. This trend of fewer new entrants and

fewer young farmers emphasizes the importance of programs that attract new organic producers.

Highest ranked research needs overall varied somewhat between Alberta and the national survey. Soil fertility and crop rotations were ranked highly by both (number one on the national survey and third on the Alberta Survey) and ranked number one within soils for both reports. Overall weed related issues ranked higher for Alberta compared to the national survey as they took the first and second priority for plant-related production issues in Alberta. Management of crop disease and insect pests for Alberta were ranked of similar priority to the rest of Canada.

Like the national survey *breeds* and *parasites* were the top two concerns in Alberta for livestock production issues (although *parasites* ranked as number one in the National survey), and *feed* and *grazing* hold the same positions as the next highest concerns for both surveys.

In general, Alberta results for research on production economics, quality and nutrition of organic foods and sustainability issues were very similar to national results. Livestock issues appear to be of slightly higher concern to Albertan farmers, as *livestock production economics* was ranked higher than *mixed farm production economics* for Alberta. Another difference was that *quality and nutrition of organic animal products* ranked higher than *horticultural crops* in Alberta compared to the national survey.

Rankings on post-production needs (marketing and processing) in Alberta were very similar to those in the national survey results, with emphasis on the need for consumer education on organic benefits and standards.

For extension and technology transfer topics, *fact sheets on organic practices* were the number one priority for both Alberta and the rest of Canada. Other rankings were quite similar with *field tours* and *information on websites/email* in the top four for both. The exception was that *organic production economics* was ranked third by Albertan producers, but ranked significantly lower in the national survey results.

Barriers to the growth of organics noted by Albertan respondents were very similar to those of the national survey. Concerns from the national survey regarding costs, certification reputability, consumer education, GMO's and deficiencies in infrastructure were echoed by Albertan farmers. Producers from Alberta and across Canada agreed that the most significant opportunity for the growth of organic is the growing consumer demand for organic products with increasing consumer education.

9. Summary

Fair diversity was seen in producer type respondents for Alberta with field crop producers as the main respondents, there was good representation by livestock and horticultural crop producers and many mixed farms were also seen.

Most respondents to the survey were relatively new entrants to organic agriculture and the vast majority of respondents were over the age 50. Further analysis and verification of this trend is required as these demographics have considerable impact on the nature of organic operations that new entrants are undertaking and the turnover rate of producers. High turnover rates will place increasing pressure on mentorship and transition training programs to sustain our current organic production capacity.

Alberta farmers noted rotations, soil quality and weed control as high priority in crop production research. They also placed value on the quality and nutrition of organic foods that are being placed in the market. In particular, Alberta farmers emphasized the need for consumer education on organic benefits and standards. Producers had somewhat divided preference for electronic vs. non-electronic methods of technology transfer, concluding that factsheets are an effective method for information sharing, and university/college courses were of little interest.

Concerns with barriers in Alberta for the growth of organics were consumer education, issues relating to certification/regulations, marketing difficulties and cost to producers and consumers. Responses were optimistic regarding opportunities for the future growth of organic with the trend of increasing consumer awareness and interest in health and the environment.



10. Appendix 1. Canada Organic Needs Assessment Survey

OACC recognizes that the value in agricultural research and other farm services comes from **meeting the needs of farmers**. The purpose of this survey is to help us to more effectively meet your needs. The results of the survey will

- ✓ give you an opportunity for direct input into the priorities for future funding initiatives
- ✓ help researchers plan their research programs with your concerns in mind
- ✓ help extension staff provide extension materials relevant to your needs

Please answer as many questions as you wish. This information helps us to understand your needs, but if you feel that you do not wish to share some information, or feel that it doesn't apply to you, please skip that question, and go on to the next question.

Your responses to this survey are completely anonymous. Any release of this information will be aggregated to assure anonymity. Please return this questionnaire in the enclosed envelope or fax it to 902-896-7095. If you have any questions, comments or concerns about this process, please contact Margaret Savard, at 902-893-7256 (office) or oacc@nsac.ca.

Thank you for your time and thought in completing this survey.

SECTION A: Products

A1. What organic products do you currently produce? (Check all that apply.)

In Saskatchewan, Manitoba, Alberta and the Maritimes, the options were:

☐ Cereals ☐ Oilseeds ☐ Pulses ☐ Forages ☐ Fruit
☐ Vegetables ☐ Herbs/Spices ☐ Beef ☐ Bison ☐ Dairy
☐ Swine ☐ Sheep ☐ Poultry Other: _____

In Ontario, the options were:

☐ Fall cereals ☐ Hay ☐ Vegetables ☐ Dairy ☐ Poultry
☐ Spring cereals ☐ Pasture ☐ Fruit ☐ Beef ☐ Sheep
☐ Soybeans ☐ Corn ☐ Berries ☐ Bison ☐ Swine
☐ Pulses ☐ Herbs/Spices ☐ Greenhouse/hoophouse Other: _____

In British Columbia, the options were:

☐ Cereals ☐ Oilseeds ☐ Pulses ☐ Forages ☐ Fruit
☐ Vegetables ☐ Herbs/Spices ☐ Beef ☐ Bison ☐ Nuts
☐ Swine ☐ Sheep ☐ Poultry ☐ Dairy (cow, goat, sheep)
☐ Greenhouse Other: _____ Other: _____

A2. What organic products do you intend to produce in the near future? (Check all that apply.)
(As above for each region)

For the pages that follow, we have asked two types of questions.

- ✓ We would like to know how much interest there is in each type of research. For these questions, please circle the number that indicates how important each is to you as an organic producer, on a scale of 1 to 5
- ✓ We would also like to know of any specific sorts of research or other concerns that you have. Please write in any comments you would be willing to share with us.
- ✓ If you have more comments than will fit, please include another page, or contact OACC directly. Our phone, fax and email contacts are listed above.

Thank you! We really appreciate the time and effort that you give us to help us help you.

NB: on the original survey distributed, the rankings of 1 – 5 were reversed (i.e. 1 was the most important and 5 was the least important)

SECTION B: Production Research (production research is directed to all those areas that help you grow a crop or raise livestock)

	Very Important	4	3	2	1
B1. Managing soil fertility and soil quality/health	5	4	3	2	1
Soil Biology – management to improve existing soil life (e.g. mycorrhizae).....	5	4	3	2	1
Soil Biology – adding living organisms (e.g. inoculants)	5	4	3	2	1
Soil Chemistry – N, P, K, S management	5	4	3	2	1
Soil Chemistry – other (specify _____)	5	4	3	2	1
Soil Chemistry – trace elements	5	4	3	2	1
Soil Chemistry – salinity	5	4	3	2	1
Manure Management	5	4	3	2	1
Minimizing Soil Erosion	5	4	3	2	1
Rotations (green manures and crop rotation for soil fertility)	5	4	3	2	1

What other soil research would you like to see? _____

B2. Managing weeds	5	4	3	2	1
Mechanical (tillage) controls.....	5	4	3	2	1
Mechanical (tillage) controls in perennial crops (BC only)	5	4	3	2	1
Biological controls (natural and introduced diseases and predators of weeds).....	5	4	3	2	1
Cultural controls (seeding rates, varieties, cropping management)	5	4	3	2	1
Rotations (green manures, crop order)	5	4	3	2	1
Organic herbicides	5	4	3	2	1
Other (specify _____)	5	4	3	2	1
Designing weed control programs to manage specific weeds					
Canada thistle	5	4	3	2	1
Wild mustard	5	4	3	2	1
Field bindweed (BC only)	5	4	3	2	1
Other (specify _____)	5	4	3	2	1

What other weeds research would you like to see? _____

	Very Important		Less Important		
B3. Managing crop insects pests	5	4	3	2	1
Enhancing natural controls (e.g. encouraging grasshopper predators)	5	4	3	2	1
Cultural controls (crop rotations, intercrops, crop management)	5	4	3	2	1
Biological controls (e.g. releasing insect diseases or predators)	5	4	3	2	1
Organically approved insecticides (BC and Ontario only)	5	4	3	2	1

What other insect research would you like to see? _____

B4. Managing crop diseases	5	4	3	2	1
Enhancing natural controls (e.g. encouraging beneficial bacteria).....	5	4	3	2	1
Cultural controls (crop rotations, intercrops, crop management)	5	4	3	2	1
Organically approved fungicides (BC and Ontario only)	5	4	3	2	1

What other disease research would you like to see? _____

B5. Crop rotations	5	4	3	2	1
Understanding soil, weed, insect, disease interactions in rotations	5	4	3	2	1
Identifying beneficial crop rotations for specific problems	5	4	3	2	1
Long term cropping systems research	5	4	3	2	1

What other crop rotation research would you like to see? _____

B6. Breeding/testing varieties for suitability in organic systems	5	4	3	2	1
--	---	---	---	---	---

Which crops would you target for this research? _____

What specific variety or breeding research would you like to see? _____

B7. Specialized equipment for organic production systems	5	4	3	2	1
---	---	---	---	---	---

..... What types of equipment would you like to see researched (e.g. weed clippers, chaff collectors, crimper/rollers, hoophouse, season extension techniques etc.)?

Very
Important

Less
Important

Do you raise livestock? If not, please go on to C. Yes No

B8. Animal health and nutrition 5 4 3 2 1
(For the questions below, please specify the animals (beef, dairy, sheep, etc.) in which you are interested)

Breeds (specify animal:) 5 4 3 2 1

Parasites (specify animal :) 5 4 3 2 1

Diseases (specify animal :) 5 4 3 2 1

Grazing (specify animal:) 5 4 3 2 1

Feed (specify animal:) 5 4 3 2 1

Handling (specify animal :) 5 4 3 2 1

Housing (specify animal :) 5 4 3 2 1

Manure Management (specify animal :) 5 4 3 2 1

What other livestock research would you like to see?

.....

.....

SECTION C: Other Research

C1. Production economics (quantifying cost of production, comparing costs of options; identifying new enterprises and ventures) 5 4 3 2 1

Grain production 5 4 3 2 1

Mixed farm 5 4 3 2 1

Horticulture production 5 4 3 2 1

Livestock production 5 4 3 2 1

Dairy production 5 4 3 2 1

Which crops or animals would you like to see researched (e.g. hemp, camelina, carrots, ostrich – **examples not used in ON and BC surveys**)?

.....

.....

Value added research 5 4 3 2 1

Which value added projects would you like to see researched (e.g. cleaning plant, custom operations, birdseed, wild oat oatmeal – **examples not used in ON and BC surveys**)?

.....

.....

	Very Important		Less Important		
C2. Quality and nutrition of organic foods	5	4	3	2	1
Field crops	5	4	3	2	1

Please specify which crops: _____

Animal products5 4 3 2 1

.....Please specify which animal products: _____

Horticultural crops5 4 3 2 1

Please specify which crops: _____

What other organic food quality research would you like to see? _____

C3. The contribution of organic to sustainability	5	4	3	2	1
Biodiversity (diversity of wildlife and soil organisms).....	5	4	3	2	1
Sequestering carbon	5	4	3	2	1
Energy use.....	5	4	3	2	1
Soil quality.....	5	4	3	2	1
Pesticide reduction	5	4	3	2	1

What other sustainability research would you like to see? _____

SECTION D: Research Management (Where should research be conducted? How should organic producers be involved in organic research?)

D1. Research conducted on the farms of organic producers	5	4	3	2	1
D2. Research conducted at regional research and/or demonstration farms	5	4	3	2	1
D3. Research conducted using farm scale equipment	5	4	3	2	1
D4. What level of organic producer involvement is important to you?					
Producer advisory committees for research projects.....	5	4	3	2	1
Producer / researcher collaboration	5	4	3	2	1
Producer initiated research	5	4	3	2	1
Producer board determines direction of research dollars	5	4	3	2	1

Additional comments? _____

SECTION E: Post Production Needs (includes processing and marketing information)

	Very Important		Less Important		
E1. Information on commodity prices and volumes	5	4	3	2	1
E2. Information on buyers/brokers	5	4	3	2	1
E3. Information on market trends and demands	5	4	3	2	1
E4. Assistance in developing value added products	5	4	3	2	1
E5. Processing facilities for organic field crops	5	4	3	2	1
E6. Processing facilities for organic fruits and vegetables	5	4	3	2	1
E7. Slaughter facilities for organic cattle	5	4	3	2	1
E8. Mobile slaughter facilities for other organic livestock	5	4	3	2	1
E9. Buy local campaign	5	4	3	2	1
E10. Provincial Organic logo (<i>not asked in ON, BC or Maritimes</i>)	5	4	3	2	1
E11. Local procurement for institutional buyers	5	4	3	2	1
E12. Buyer/seller matchmaking services	5	4	3	2	1
E13. Consumer education on organic standard	5	4	3	2	1
E14. Consumer education on organic benefits	5	4	3	2	1

What other initiatives would you like to see? _____

SECTION F: Extension/Technology Transfer (How does research information reach farmers?)

F1. How important are organic extension and education services?	5	4	3	2	1
Extension courses on advanced specific aspects of organic production	5	4	3	2	1
Fact sheets on organic farming practices	5	4	3	2	1
Information on economics of organic production	5	4	3	2	1
Organic information available on websites or by email	5	4	3	2	1
Extension personnel to facilitate specialty producer meetings	5	4	3	2	1
Organic Farm Mentorship programs (experienced organic farmers)	5	4	3	2	1
Field tours of organic production	5	4	3	2	1
Conferences (regionally appropriate examples listed)	5	4	3	2	1
Regional workshops	5	4	3	2	1
Organic Agriculture program offered through distance education	5	4	3	2	1
Organic Agriculture program at a regional college	5	4	3	2	1
University-level Degree courses in Organic Agriculture	5	4	3	2	1
How do you prefer to access information?					

What specific information would you like to see (soil test fact sheet, nutrient planning, buyers' preferences, etc.)? _____

SECTION G: Barriers and Opportunities for Growth

What barriers do you see for the growth of organics? _____

What opportunities do you see for the growth of organics? _____

SECTION H: Demographics (we ask these questions in order to categorize your results (for instance, are weeds more important to new entrants in organics?))

- | | Cultivated | Pasture/grazing | Other |
|---|--------------------------|-----------------------|------------------------------------|
| H1. How many acres do you operate? | _____ | _____ | _____ |
| acres | | | |
| H2. How many of these are certified organic? | _____ | _____ | _____ |
| acres | | | |
| H3. Where does your gross farm revenue generally fall? | _____ <\$10,000 | _____ \$10,000- | |
| | \$24,999 | \$25,000-\$49,999 | \$50,000-\$99,999 |
| | _____ | \$100,000-\$249,999 | _____ >\$250,000 |
| H4. Where do you market your products? (<i>Asked in AB, ON and BC</i>) | | | |
| | _____ Direct to consumer | _____ Farmer's Market | _____ Wholesale |
| | | _____ Processor | _____ Retailer |
| H5. How many years have you been an organic producer? | | | |
| | _____ < 5 years | _____ 5 – 10 years | _____ 11 – 15 years |
| | | _____ 16 – 20 years | _____ 21+ years |
| H6. What is your age? | _____ < 30 | _____ 30 - 39 | _____ 40 - 49 |
| | | _____ 50 - 59 | _____ 60 - 69 |
| | | | _____ 70+ |
| H7. What is your gender? | _____ male | _____ female | |
| H8. What is your soil type? | _____ brown | _____ dark brown | _____ black |
| | | _____ grey | (<i>Asked in AB, SK, and MB</i>) |

Additional Comments: (Is there anything that you'd like to add, that we missed? Add another page if you'd like!) -

Thank you, again, for your comments.