Horticulture Nova Scotia Vegetable Research Priorities for 2016 – 2017

As compiled by
Rosalie Madden, Perennia Vegetable Specialist
rmadden@perennia.ca

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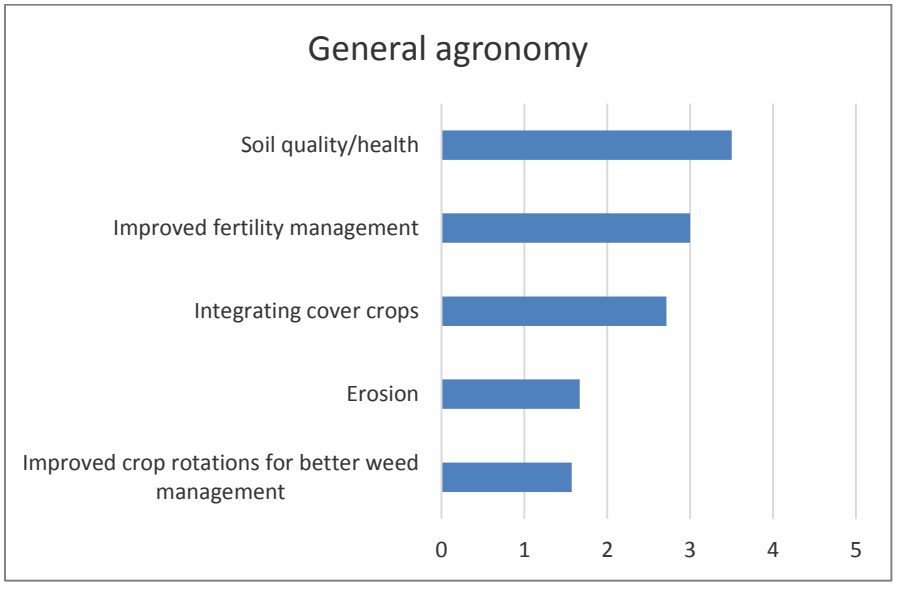
Horticulture Nova Scotia in conjunction with Perennia regularly administers a variety of research projects to assist farmers in exploring new varieties of crops, improving on existing crops, determining best management practices, and managing crop pests. Approximately every two years, berry and vegetable research priority selection sessions bring together Horticulture Nova Scotia members, researchers and other interested parties to determine what these projects should encompass. A survey was administered to the Horticulture Nova Scotia membership in March of 2016 to determine research priorities for each crop and for vegetable production as a whole. A summary is presented below of the findings as determined by this survey and through discussion with the membership.

Methodology

Questions were formatted to determine needs that spanned the vegetable industry and were also broken down to address issues that pertain to each crop or crop group. Numerous research priorities were ranked by the membership of Horticulture Nova Scotia, with further priorities coming to light in subsequent discussions. For each response, the top priority was given a value of five, the second priority was given a value of four, the third priority a value of three, etc. and then divided by the number of respondents to that priority line item. Therefore, priorities given a ranking of 5 are the most urgent or pressing priorities, descending in value and priority from there. Where there were numerous priorities identified, the top ranked are displayed graphically, and other, lesser ranked priorities or priorities that came up in conversation are simply listed.

General agronomy and overarching priorities

There were many areas that were identified as research priorities. The top 5 research priorities across all vegetables are:



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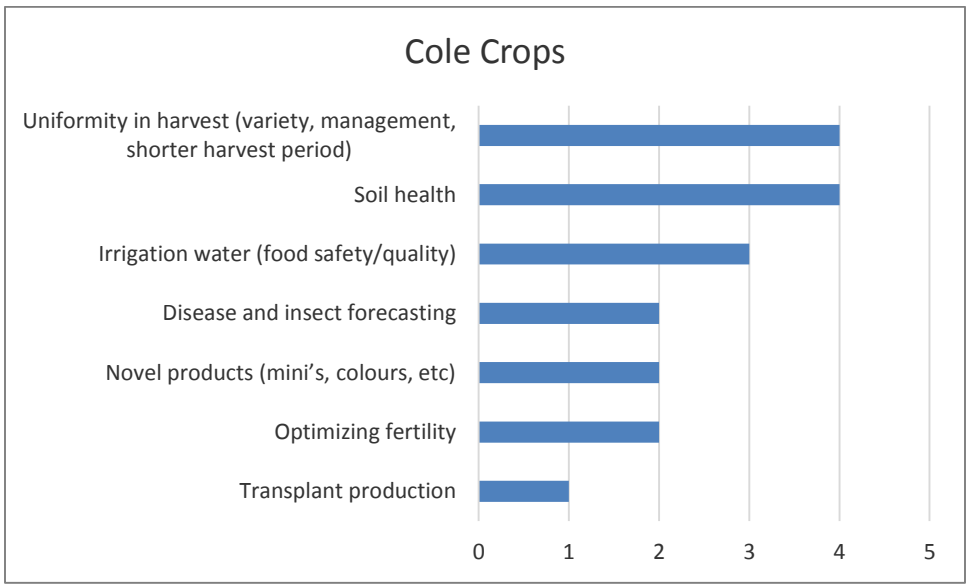
Other research priorities mentioned as relates to general agronomy and other overarching priorities, in no particular order were:

- System resiliency (in the face of extreme weather conditions, etc.)
- Food safety (irrigation and wash water quality)
- Improved crop rotations for better insect pest management
- Shelf life enhancement (production, packaging, post-harvest handling, storage)
- Marketing
- Irrigation
- Consumer education
- Energy efficiency
- Market research for new crops/products
- Convenience packaging
- Develop best practices for vegetable rotations
- Identifying the best varieties that grow in our area
- Improve crop rotations to build soil health

Cole Crops

There are over 900 acres of Cole crops cultivated by members of Horticulture Nova Scotia. The top research priorities for Cole crops are:



Other Cole crop research priorities mentioned in no particular order:

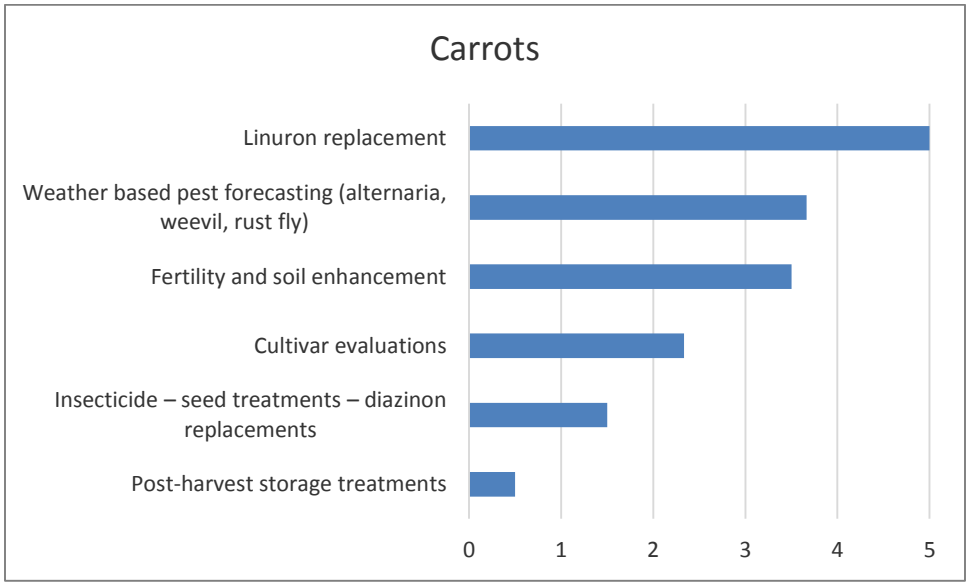
- Cabbage maggot
- Foliar nutrition (micronutrients, tissue testing)
- Weed control

- Reduced tillage
- By-products (uses for waste, etc.)
- Clubroot – resistant varieties, crop rotations, soil compaction/chemistry
- Shelf life extension
- Wireworm control

It was further stressed that best management practices are needed to attain uniformity in harvest timing for cauliflower within a given planting.

Carrots

There are over 900 acres of carrots grown by the membership of Horticulture Nova Scotia. The top research priorities for carrots are:



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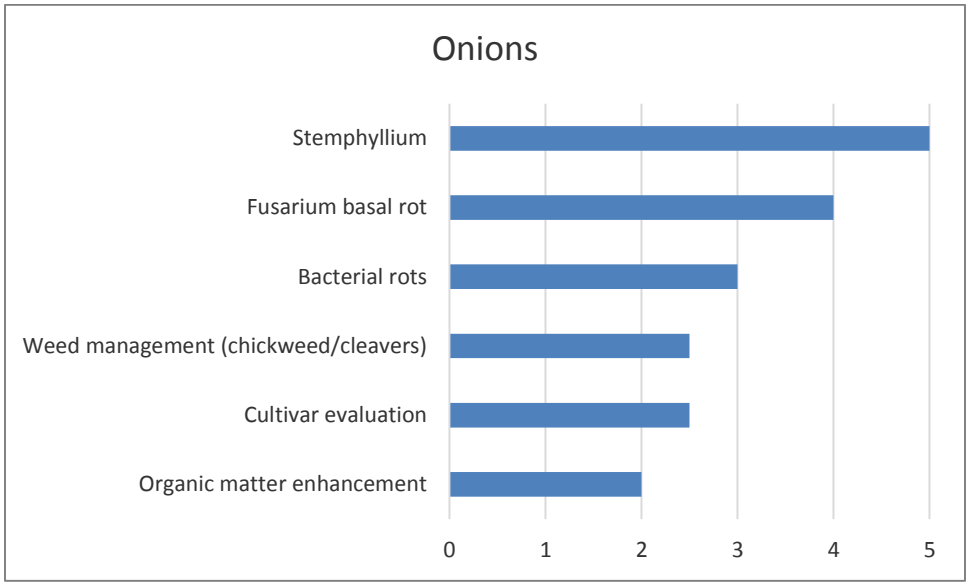
Onions

There are over 250 acres of onions grown by the Horticulture Nova Scotia membership. The top research priorities for onions are:



Other research priorities that were mentioned, in no particular order:

- Wireworm
- Fertility research
- Soil amendments (wood ash, compost, biochar)
- Bio-fumigation
- Weather based pest forecasting (thrips – foliar diseases)

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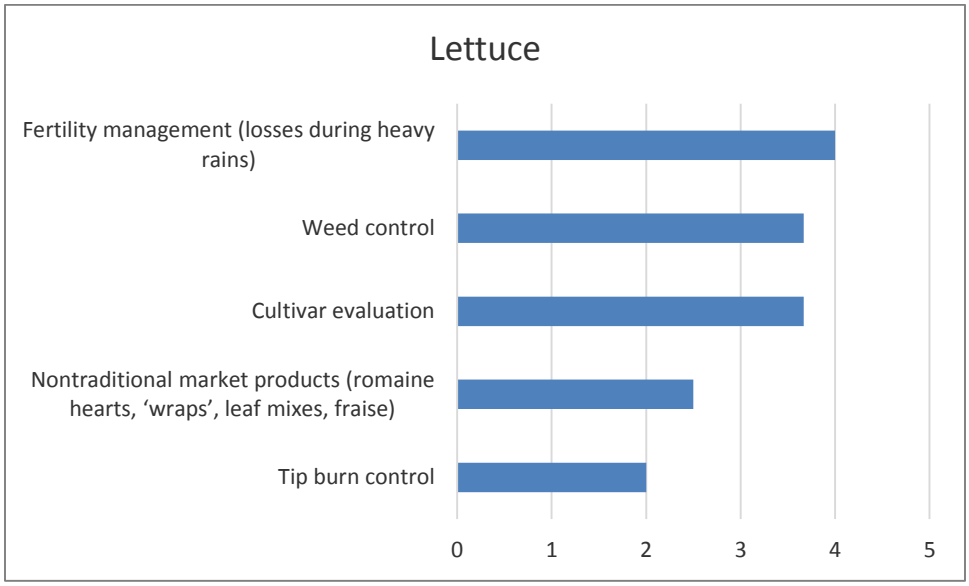
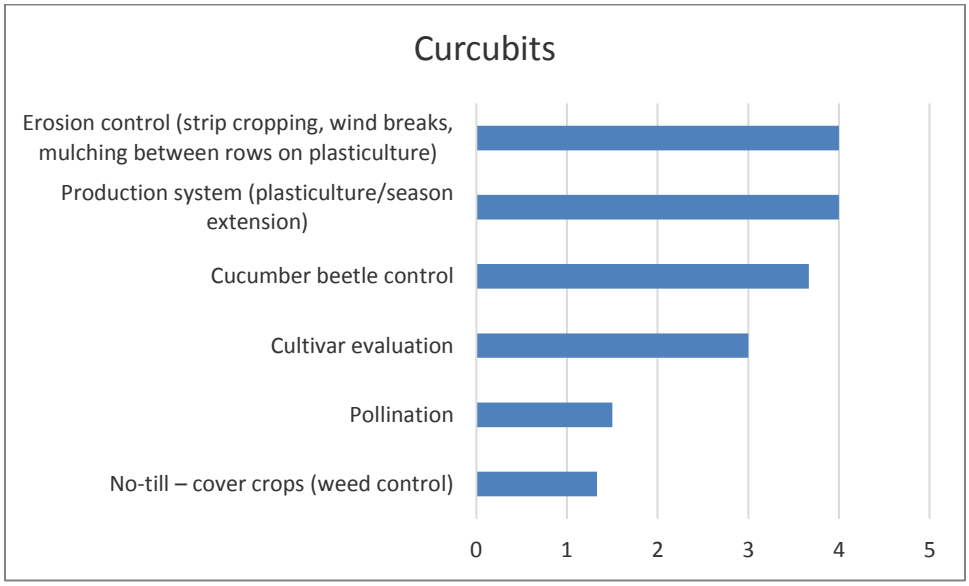
Lettuce

There are over 250 acres of lettuce grown by the membership of Horticulture Nova Scotia. The top research priorities for lettuce are:



Vine Crops

There are over 200 acres of vine crops grown by the membership of Horticulture Nova Scotia. The top research priorities for vine crops are:



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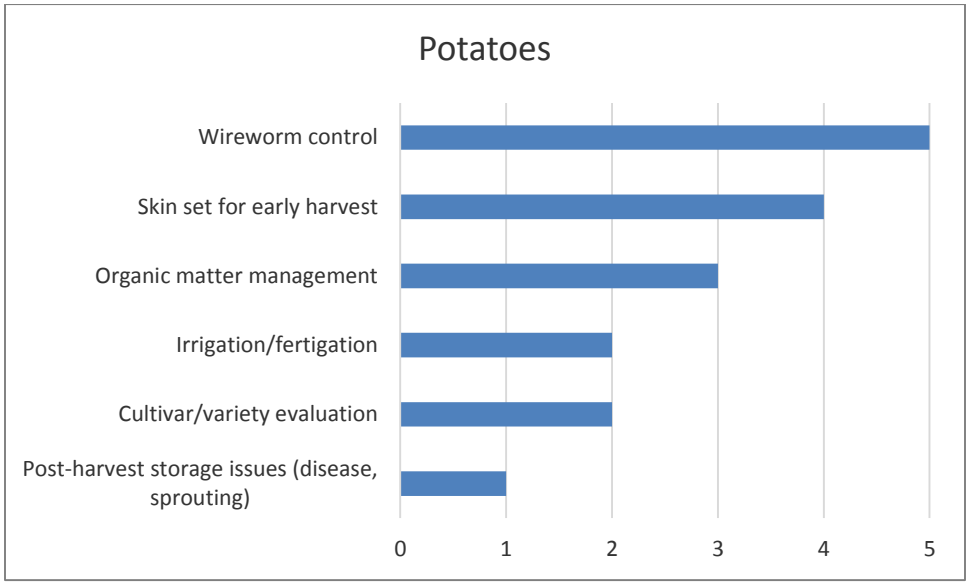
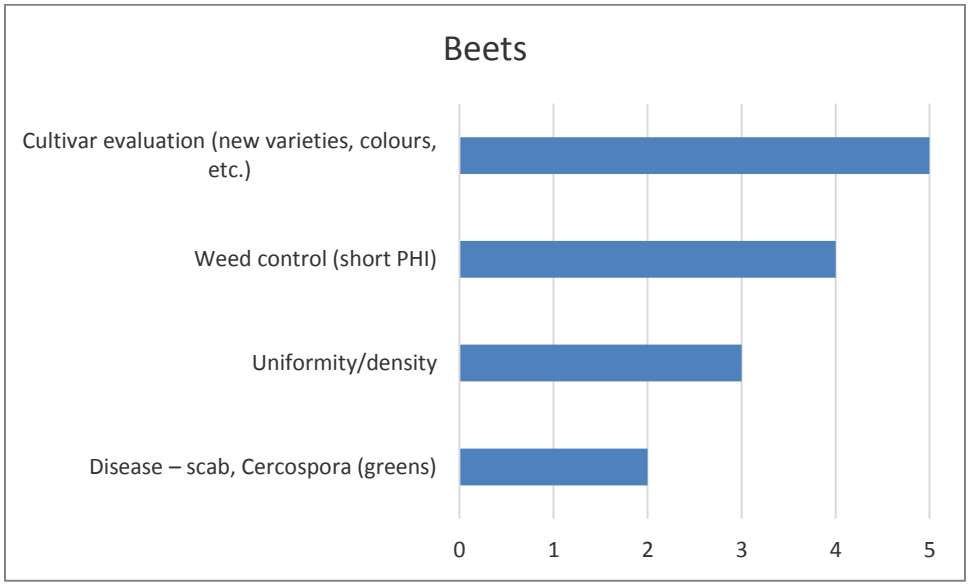
Potatoes

The top research priorities for potatoes are:



Beets

There are approximately 150 acres of beets grown by the membership of Horticulture Nova Scotia. The top research priorities are:



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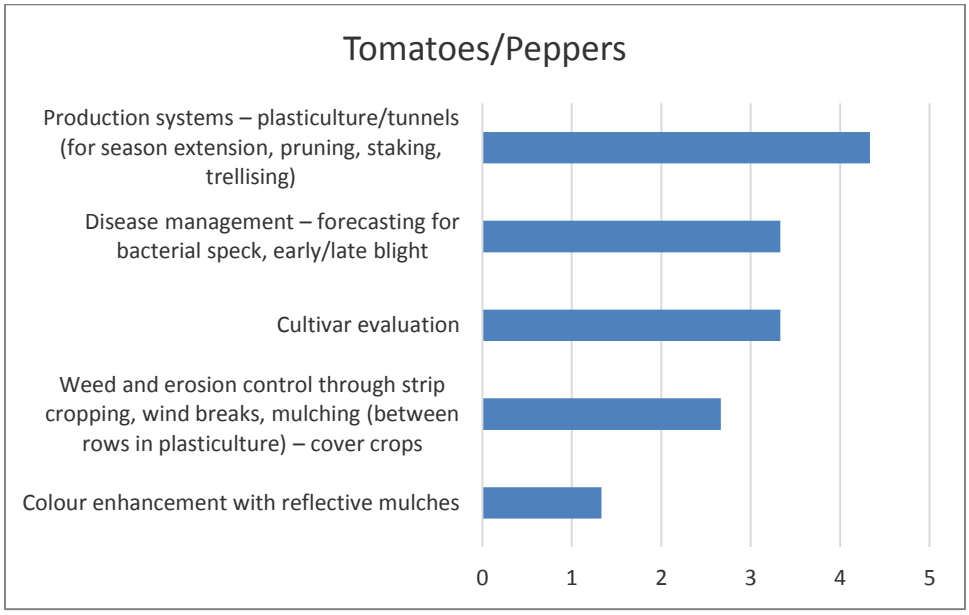
Rutabaga/Turnip

There are approximately 150 acres of rutabagas and turnips grown by the membership of Horticulture Nova Scotia. The top research priorities for rutabagas and turnips are:

1. Cabbage maggot control
2. Weed control

Tomatoes/Peppers

There are over 100 acres of field-grown peppers and field-grown tomatoes by the membership of Horticulture Nova Scotia. The priorities for field-grown peppers and tomatoes are:



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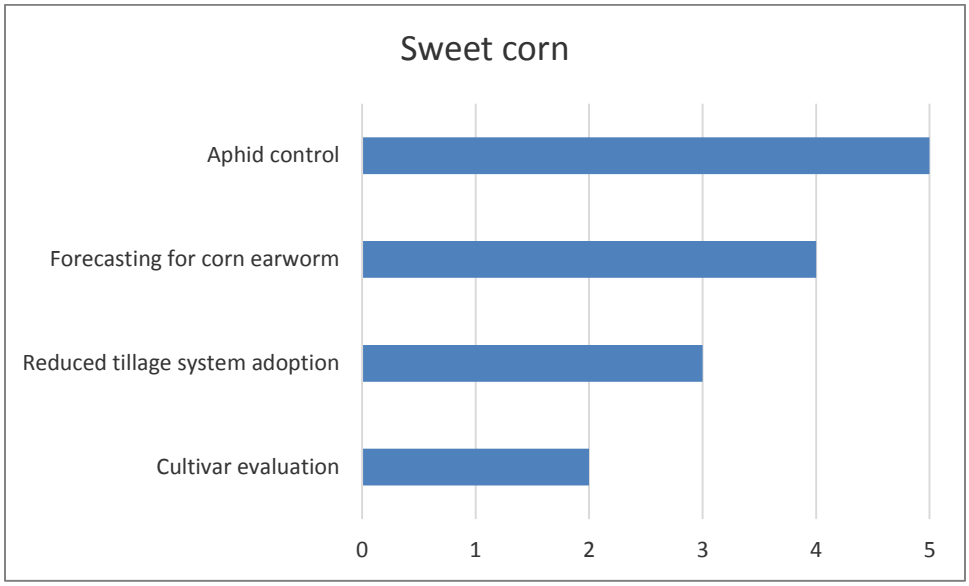
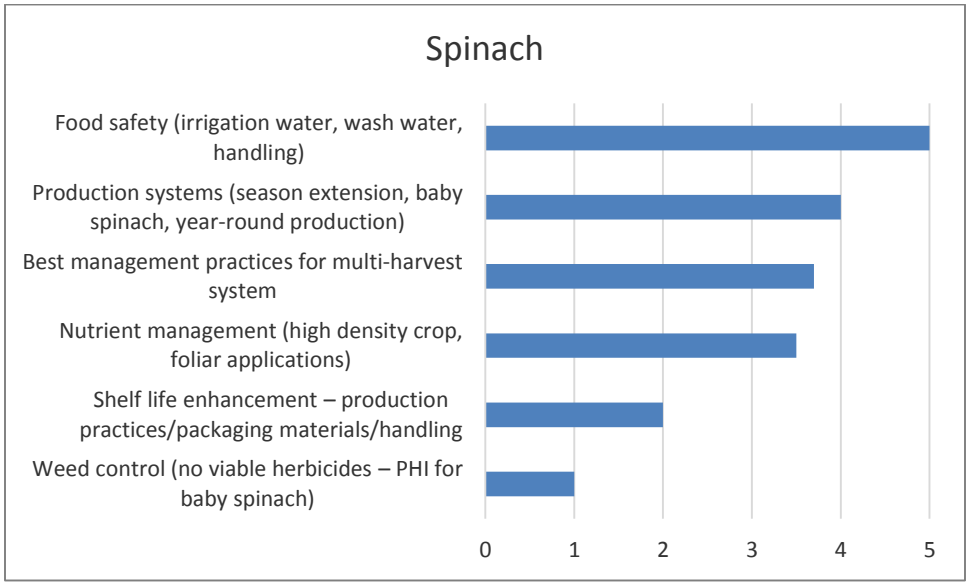
Sweet Corn

There are over 90 acres of sweet corn grown by the membership of Horticulture Nova Scotia. The top research priorities for sweet corn are:



Spinach

There are approximately 30 acres of spinach being grown by the membership of Horticulture Nova Scotia. The top research priorities for spinach are:



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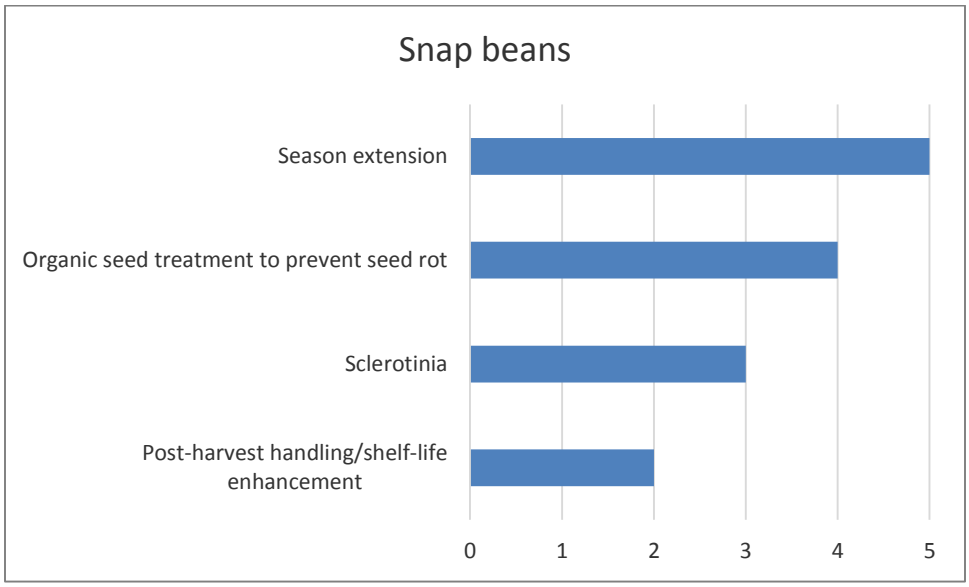
Specifically mentioned as a priority for nutrient management in spinach was prevention techniques for minimiznig leaf yellowing after heavy rains.

Snap Beans

The top research priorities for snap beans are:



Sweet Potatoes

Sweet potatoes are a newer crop to Nova Scotia. Priorities were identified through conversations with the membership, but were not weighted. Top research priorities for sweet potatoes are:

1. Size uniformity (through plant spacing, cultivar evaluation/breeding program)
2. Mammalian pest control
3. Edible stems/leaves – new crop opportunity? Need marketing help.

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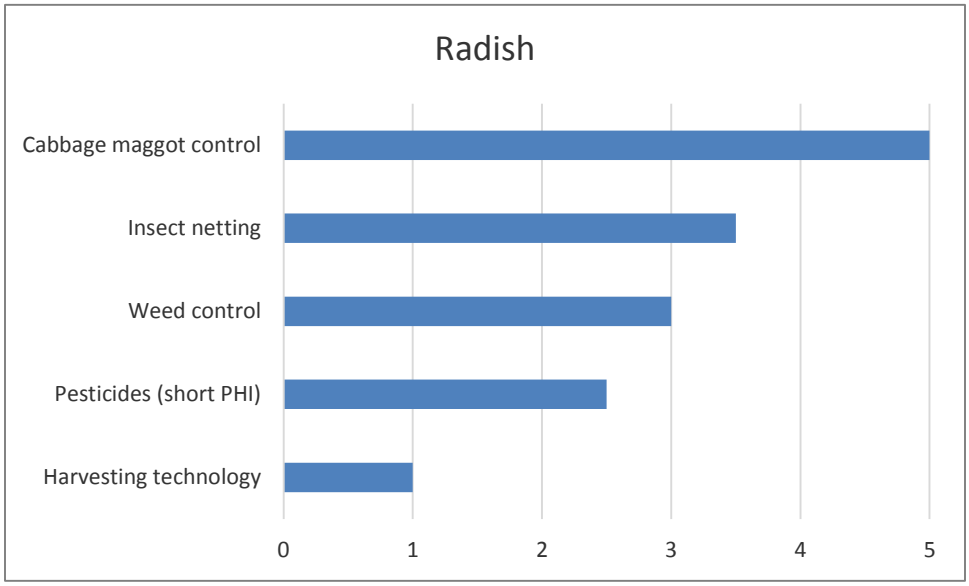
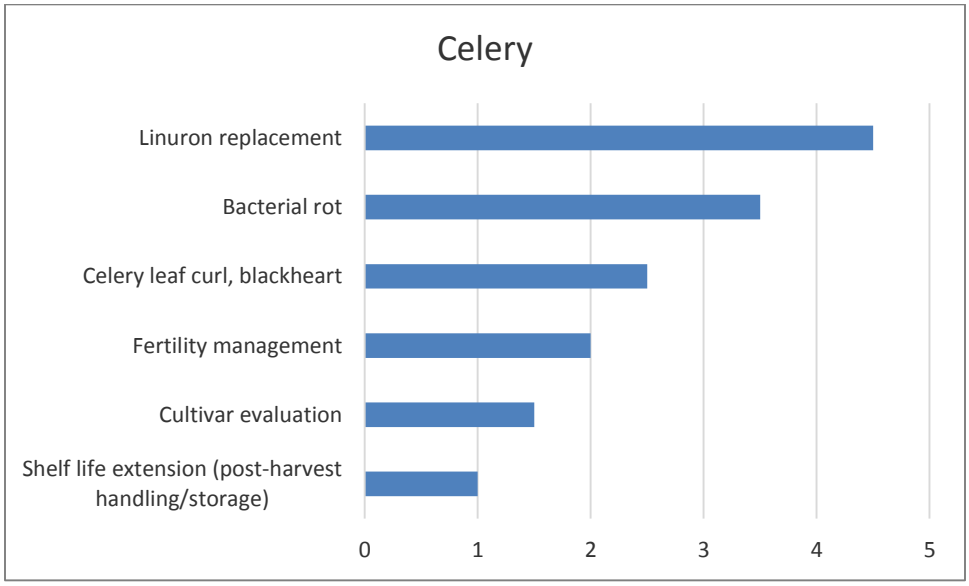
Radish

There are approximately 10 acres of radishes grown by the membership of Horticulture Nova Scotia. The top research priorities for radish are:



Celery

There are over 10 acres of celery grown by the membership of Horticulture Nova Scotia. The top research priorities for celery are:



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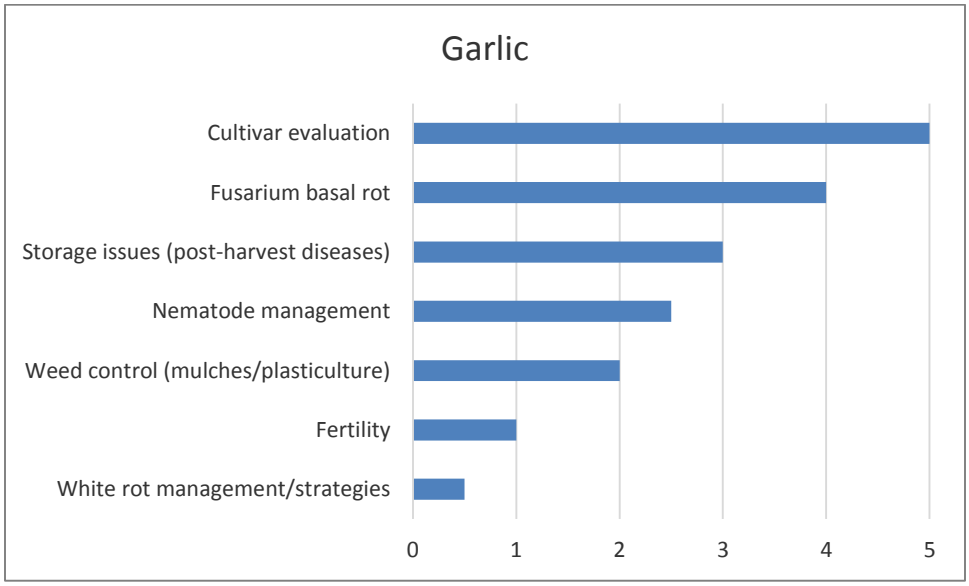
Garlic

There are currently approximately 10 acres of garlic being cultivated by the membership of Horticulture Nova Scotia. The top research priorities for garlic are:



Swiss Chard

There are currently 2 acres of Swiss chard being grown by members of Horticulture Nova Scotia. The top research priorities for Swiss chard are:

1. Cultivar evaluation
2. Production systems (beds/tunnels/peat)

Specialty Vegetables

There are numerous types of specialty vegetables being grown in Nova Scotia with a wide ranging number of acres. Current speciality vegetables range from 80 acres of Chinese cabbage to smaller acreages of eggplant, fennel, dandelion greens, celeriac, collards, ground cherries, etc. Priorities across all vegetables were simply ranked and not weighted. Top research priorities for speciality vegetables are:

1. Marketing
2. Bacterial rots
3. Pest control (short PHI, very few products registered)
4. Insect covers/netting
5. Production systems
6. Weed control

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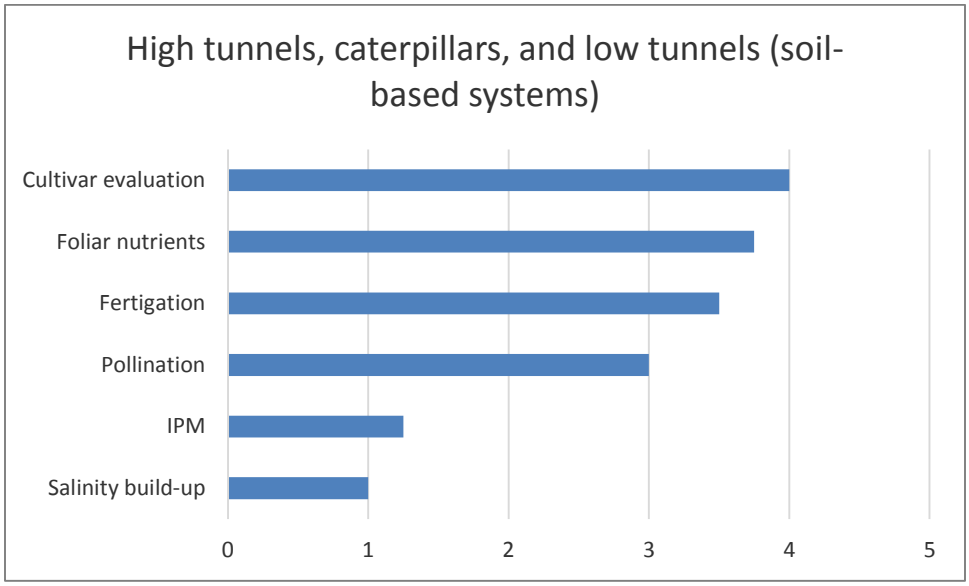
High tunnels, caterpillars, low tunnels (soil-based systems)

Numerous crops are grown in high tunnels, caterpillars, and low tunnels using a soil-based system in Nova Scotia. Across all of those crops, the top research priorities for these systems are:



Also mentioned were developing best management practices for growing salad greens in the winter.

Greenhouses (soil-less systems)

Numerous crops are grown in greenhouses in a soil-less system in Nova Scotia. Across all crops, the top research priorities for this kind of system are:

1. LED lighting
2. Foliar nutrients
3. Fertigation
4. Pollination
5. Cultivar evaluation
6. IPM

It was specifically noted that *applied* research and on-farm demos were desired for systems using LED lighting. The benefits of using LED lighting in storage systems was also mentioned as an area of interest to the membership.

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This report was brought to you by:

Perennia:

Operational since 2001, Perennia (formerly AgraPoint) has a 31-member team including specialists with expertise in areas of horticulture, livestock, IPM, field crops, product development and commercialization, and food safety, as well as professional skills in such areas as facilitation, adult education, information technology and communication. *The mission of Perennia is to help farmers, fishermen and food processors be prosperous and profitable.* Perennia offers a wide range of production and development services to farmers, agri-businesses, co-operatives, industry associations, universities, and government. From its offices in Kentville and Truro, Nova Scotia, Perennia provides advice through workshops, field days, in-depth projects, and one-on-one consultations in person and by phone.

Horticulture Nova Scotia:

Horticulture Nova Scotia was formed in 1998 and is a not-for-profit association. Horticulture Nova Scotia works with other horticultural interest groups to further the needs and interests of the horticulture industry. Horticulture Nova Scotia aims to promote unity and cooperation within the research community and to facilitate the identification of research priorities that will benefit the horticulture industry.

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