

Farmer Skill and Knowledge Checklist for Small Fruit Growers in Maine

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This list is designed for small fruit growers who wish to gain knowledge and skills to improve the profitability of the enterprise(s) they manage. Small fruit crops in Maine typically include highbush blueberries, raspberries, and strawberries. However, other crops such as grapes, elderberry, and kiwi might be successful with suitable growing conditions. The list is first presented in general, with farmer skills and knowledge for specific small fruit crops listed secondarily.

The grower can use this list to identify specific skills or knowledge to be gained or improved upon. Feel free to customize this list to suit your needs.

Circle your current and desired (target) competence using this scale:

- 1=No knowledge/skill
- 2=Some knowledge/skill
- 3=Well-informed/experienced

Recommended knowledge	My current level			My target level		
Planning						
Understand potential markets and their elements.	1	2	3	1	2	3
Know about the programs available through Cooperative Extension for pest management and marketing.	1	2	3	1	2	3
Be familiar with reputable sources for plants, crowns, and plugs.	1	2	3	1	2	3
Know how to evaluate, select and order appropriate small fruit cultivars for planting in Maine.	1	2	3	1	2	3
Know how to prepare land for small fruit production at least one year before planting.	1	2	3	1	2	3
Know when specific small fruit crops can be planted in Maine with success.	1	2	3	1	2	3
Be able to categorize small fruit crops as early season, mid-season, and late season cultivars, and how to schedule their harvest windows.	1	2	3	1	2	3
Know how to select cover crops to improve soil conditions before planting.	1	2	3	1	2	3

Know how to eliminate potential weed problems before planting.	1	2	3	1	2	3
Understand potential irrigation needs of various crops before planting.	1	2	3	1	2	3
Production						
Know how to layout a field for the planting of various small fruit crops for optimum field productivity and ease of management.	1	2	3	1	2	3
Recognize the water needs of specific crops through observation or by monitoring with a soil moisture meter.	1	2	3	1	2	3
Know how to effectively provide adequate water to crops.	1	2	3	1	2	3
Know the proper plant spacing and depth for small fruit crop plants.	1	2	3	1	2	3
Know how to transplant small fruit types with success.	1	2	3	1	2	3
Know how to effectively protect small fruit plantings from frost threats.	1	2	3	1	2	3
Know how to protect plantings from potential wind damage.	1	2	3	1	2	3
Know how to harvest and store crops effectively for optimum value.	1	2	3	1	2	3
Soil & Fertilizers						
Know how to properly take a representative soil sample of a field or plot.	1	2	3	1	2	3
Know how to interpret a soil analysis from the soil lab.	1	2	3	1	2	3
Understand the appropriate timing of fertilizer applications in regards to season and plant growth stage.	1	2	3	1	2	3
Know how to select and use fertilizers effectively.	1	2	3	1	2	3
Know the pros and cons of synthetic and organic fertilizers.	1	2	3	1	2	3
Understand the importance of organic matter in the soil and how to manage it.	1	2	3	1	2	3
Know how to improve soil structure.	1	2	3	1	2	3
Be familiar with cultural practices to minimize soil erosion.	1	2	3	1	2	3
Understand the composting process.	1	2	3	1	2	3
Know how to make compost.	1	2	3	1	2	3
Recognize the causes of soil compaction and how to prevent it.	1	2	3	1	2	3
Be familiar with methods to increase or decrease the soil pH to suit specific crops.	1	2	3	1	2	3
Pest Management						
Be familiar with Integrated Pest Management (IPM) practices for small fruit crops.	1	2	3	1	2	3
Be able to recognize common insect pests of small fruit crops in Maine.	1	2	3	1	2	3
Know how to determine the least toxic approach to managing insect pests.	1	2	3	1	2	3
Know how and where to send plant insect and disease specimens for diagnosis.	1	2	3	1	2	3
Be able to identify common weeds of small fruit plantings in Maine.	1	2	3	1	2	3
Know how to effectively control weeds using least toxic and economical approaches.	1	2	3	1	2	3
Be familiar with mulch materials and their use for effective weed control.	1	2	3	1	2	3
Be able to calibrate a sprayer (backpack or boom).	1	2	3	1	2	3
Know how to scout fields for specific pests.	1	2	3	1	2	3
Be able to distinguish disease, insect or environmental damage to small fruit crops.	1	2	3	1	2	3

Be able to recognize beneficial insects in Maine.	1	2	3	1	2	3
Be able to obtain a private applicators license through the Board of Pesticides Control.	1	2	3	1	2	3
Know how to select, use, and store all types of pesticides for a specific crop and purpose.	1	2	3	1	2	3
Know how to keep records of pesticide applications.	1	2	3	1	2	3
Be familiar with biological controls for small fruit production.	1	2	3	1	2	3
Be familiar with organic certification of fields or crops (if applicable).	1	2	3	1	2	3
Know how to use a hand lens (loupe).	1	2	3	1	2	3
Be able to recognize pesticide poisoning in yourself and others and the steps to take if a pesticide poisoning occurs.	1	2	3	1	2	3
Know how to respond to and report a pesticide spill.	1	2	3	1	2	3
Know how to recognize and respond to wildlife damage to crops.	1	2	3	1	2	3
Be familiar with the New England Small Fruit Management Guide and how to use it.	1	2	3	1	2	3
Marketing						
Know how to determine your customer needs.	1	2	3	1	2	3
Be familiar with ways to effectively market produce to consumers.	1	2	3	1	2	3
Understand the pros and cons of marketing methods for selling small fruit (retail, wholesale, and U-pick).	1	2	3	1	2	3
Be familiar with effectively managing customers at farm stands and at U-pick fields.	1	2	3	1	2	3
Be able to calculate the cost of production for specific small fruit crops and determine an appropriate price for the produce.	1	2	3	1	2	3
Be familiar with the quantities and packaging of how small fruits are typically sold (pound, quart, pint, etc.).	1	2	3	1	2	3
Know how to effectively display produce for sale.	1	2	3	1	2	3
Know how to create or select signage for marketing produce.	1	2	3	1	2	3
Know how to explore potential value added options for small fruit crops.	1	2	3	1	2	3
Be familiar with the services of the Marketing Division of the Maine Department of Agriculture, Conservation & Forestry	1	2	3	1	2	3
Be familiar with storage or refrigeration requirements of crops to hold them for sale.	1	2	3	1	2	3
Know if your potential market requires a third party food safety audit.	1	2	3	1	2	3
Know if your farm is exempt from the Produce Safety Rule of the Food Safety Modernization Act (FSMA) and be able to document as such.	1	2	3	1	2	3
Labor						
Know how to interview and hire workers for the farm.	1	2	3	1	2	3
Know how to motivate and manage labor.	1	2	3	1	2	3
Know how to train new workers for specific tasks.	1	2	3	1	2	3
Be familiar with labor laws as they relate to farm workers and employees.	1	2	3	1	2	3
Be familiar with Worker Protection Standards.	1	2	3	1	2	3
Recognize the value of a printed employee handout.	1	2	3	1	2	3

Know how to evaluate employees' performance.	1	2	3	1	2	3
Know how to dismiss an employee.	1	2	3	1	2	3
Know how to effectively attract new employees.	1	2	3	1	2	3
Tools and Equipment						
Be familiar with specialized equipment for field activities such as cultivating, planting, and pesticide application for small fruit crops.	1	2	3	1	2	3
Know how to safely operate a rototiller and other walk-behind power equipment.	1	2	3	1	2	3
Be familiar with small engine preventative maintenance.	1	2	3	1	2	3
Know how to safely operate a farm tractor.	1	2	3	1	2	3
Be able to perform a pre-operational check of a farm tractor.	1	2	3	1	2	3
Know how to check fluid levels of a farm tractor.	1	2	3	1	2	3
Know how to attach an implement to the 3-point hitch of a tractor.	1	2	3	1	2	3
Know how to safely maneuver a tractor with a two-wheel trailer in a forward motion.	1	2	3	1	2	3
Know how to safely maneuver a tractor with a two-wheel trailer for a backward motion.	1	2	3	1	2	3
Be certified in CPR and first aid.	1	2	3	1	2	3
Be familiar with proper use of common field hand tools (hoe, spade, rake, scythe, etc.).	1	2	3	1	2	3
Know how to select and use suitable personal protective equipment (PPE) for specific farm tasks.	1	2	3	1	2	3
Farm Business and Economics						
Be familiar with current programs offered by the Natural Resource Conservation Service (NRCS) and the Farm Service Agency (FSA) of the USDA and how and when to apply.	1	2	3	1	2	3
Know and understand available insurance policies are needed to protect the crop and your business.	1	2	3	1	2	3
Be able to keep accurate production records of small fruit crops.	1	2	3	1	2	3
Be able to keep and use financial records for business decisions.	1	2	3	1	2	3
Be able to keep records for tax purposes (relaying information to IRS Schedule F).	1	2	3	1	2	3
Know how to use, create, or adapt an enterprise budget for a specific small fruit crop.	1	2	3	1	2	3
Know how to calculate the cost of production for specific small fruit crops.	1	2	3	1	2	3
Know how to determine the break-even point for specific crops.	1	2	3	1	2	3
Know how to calculate the retail price for specific produce.	1	2	3	1	2	3
Know how to calculate the wholesale price for specific produce.	1	2	3	1	2	3
Highbush Blueberry						
Know the proper spacing for establishing highbush blueberry plants.	1	2	3	1	2	3
Understand the special soil pH and fertility needs of highbush blueberry plants.	1	2	3	1	2	3
Understand how to manage pollination with different varieties.	1	2	3	1	2	3
Understand the highbush blueberry plant types available from nurseries and the advantages and disadvantages of each.	1	2	3	1	2	3

Know how and when to prune plants for optimum production.	1	2	3	1	2	3
Able to distinguish healthy growth and weak growth.	1	2	3	1	2	3
Able to distinguish dead tissue and live tissue.	1	2	3	1	2	3
Able to identify diseases such as mummy berry and witches broom.	1	2	3	1	2	3
Able to identify and manage insect pests such as spotted wing drosophila and blueberry maggot.	1	2	3	1	2	3
Understand bird damage and how to manage it.	1	2	3	1	2	3
Bramble (Raspberry and Blackberry)						
Know how to design, construct, and maintain a suitable trellis system for brambles.	1	2	3	1	2	3
Know the proper spacing for planting brambles.	1	2	3	1	2	3
Understand the biennial life cycle of bramble canes.	1	2	3	1	2	3
Understand the special post-harvest handling of bramble fruit.	1	2	3	1	2	3
Know how and when to prune brambles.	1	2	3	1	2	3
Able to identify and manage spotted wing drosophila, cane borer damage, and Japanese beetle.	1	2	3	1	2	3
Able to identify and manage diseases such as gray mold (Botrytis), spur blight, Anthracnose, and viruses.	1	2	3	1	2	3
Strawberry						
Know the parts of the strawberry plant.	1	2	3	1	2	3
Know the benefits and drawbacks of June-bearing cultivars (consider markets and production techniques).	1	2	3	1	2	3
Know how to evaluate the health of a planting to determine if it should be carried or plowed under.	1	2	3	1	2	3
Know the benefits and drawbacks of day-neutral cultivars.	1	2	3	1	2	3
Know the appropriate steps for renovating a strawberry bed after harvest.	1	2	3	1	2	3
Know how to protect plants from winter injury with mulch.	1	2	3	1	2	3
Know the benefits and drawbacks of different planting systems (matted row vs. ribbon row).	1	2	3	1	2	3
Able to identify and manage common insect pests of strawberries such as tarnished plant bug (TPB), strawberry clipper, and root weevils.	1	2	3	1	2	3
Able to identify and manage diseases such as gray mold (Botrytis), Red Stele, and Leather rot.	1	2	3	1	2	3

Small Fruit Related Resources

- New England Small Fruit Management Guide
- [Growing Highbush Blueberries](#), bulletin #2253
- [Highbush Blueberry Production Guide](#), bulletin #2270
- [Raspberry and Blackberry Production Guide for the Northeast, Midwest, and Eastern Canada](#), [bulletin #2158](#)
- [Growing Elderberries: A Production Manual and Enterprise Viability Guide For Vermont and The Northeast](#), bulletin #2069
- [Growing Raspberries and Blackberries](#), bulletin #2066
- [Growing Strawberries](#), bulletin #2067

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