



Overview of Commercial Horticulture in Vermont

Vern Grubinger, vegetable and berry specialist, 4-13-15

Background. Apples orchards, vegetable and berry farms, nurseries, ornamentals and specialty crops such as herbs, mushrooms, etc. constitute the highly diverse horticultural farming segment of Vermont’s agriculture. The majority of these farms are relatively small scale, and most are also engaged in diverse enterprises – either production of multiple crops and/or other, non-agricultural activities that may be on or off the farm, ‘in-season’ or ‘out of season.’ Thus, the economic viability of many horticultural food producers is intertwined with non-food agricultural products (flowers, landscape plants, etc.) and non-agricultural products (gardening supplies, packaged foods, etc.) and non-agricultural activities (carpentry, landscaping, etc. and ‘off-farm’ employment.)

Horticultural farms also typically utilize a mix of different marketing methods. ‘Direct markets’ include CSA, farmers’ market, roadside market, web sales. ‘Direct to retail’ (or direct wholesale) includes sales to (local or regional) food retailers such as food coops, general stores, restaurants, and institutions, processors and supermarkets that purchase directly from farmers). ‘Wholesale’ includes sales to distributors, brokers or terminal markets. The table below shows the percentage of fruit and vegetable farms across New England that said they used various types of markets. (Values add to more than 100% because each farm could select as many markets as they use.)

MARKETING PRACTICES: Percent of Fruit and Vegetable Farms, by Sales Outlets, 2012

State	Direct to Consumer Sales						Total	Direct to Retail ¹	Wholesale Markets ²
	Farm Stand	Pick Your Own	Farmers' Market	Mail Order or Internet	Community Supported Agriculture (CSA) Shares	Other			
	Percent								
Connecticut	51	18	23	1	9	2	64	19	15
Maine	44	18	23	2	11	4	64	25	17
Massachusetts	53	23	22	2	5	5	68	19	19
New Hampshire	54	29	26	1	10	2	74	21	17
Rhode Island	45	15	22	—	7	3	60	16	22
Vermont	51	25	34	3	17	6	72	31	17
NEW ENGLAND	50	22	24	2	9	4	67	22	17

— Represents zero

¹ Direct to retail includes natural food stores or cooperatives, conventional supermarkets, restaurants, institutions (i.e. hospitals and schools), and all other retail outlets.

² Wholesale markets includes supermarket chain buyers, distributors, wholesalers/brokers, packers, other farm operations, processors, mills, grower cooperatives, and other wholesale outlets.

Source: <http://www.nass.usda.gov/Statistics by State/New England includes/Publications/Special Reports/eosmar13.pdf>

Production methods and philosophies also range widely on horticultural farms. Some are certified organic, others are follow most or all organic practices, but are not certified, or they may be certified ‘naturally grown.’) Some farms become certified in order to capture certain markets (e.g. an organic price premium from stores of wholesalers requires certification) and/or because they want to demonstrate support for organic farming. Among ‘conventional’ farms many practice IPM (integrated pest management) or describe their practices as ‘ecological,’ while a small segment could simply be called ‘conventional’ in that they use an array of legal agrichemicals to grow and protect their crops.

In 2012, Vermont Organic Farmers LLC certified 1,395 acres of vegetable production, 212 acres of fruit and 0.9 million sq. ft. (~20 acres) of greenhouse space. Source: NOFA-VT

<http://nofavt.org/sites/default/files/2013%20Statistics.pdf>

Many farms ‘buy in’ and resell products, both agricultural and non-agricultural, either in their original form or after modification. For example, many farms buy seedlings and then grow them for a few weeks or months (annuals) or years (perennials) before sale. Other farms have retail stores that resell a wide range of food (bread, cheese, eggs, potato chips) that may be locally produced, or not. Some farms process their own crops (jams, pies, salsa) or crops from other farms into high-value products for sale.

The significant diversity of enterprises, scale, markets, production methods and product sources (and the limited data collected on these features) makes it challenging to provide a robust quantitative description of commercial horticulture in Vermont.

Census data. The U.S. Census of Agriculture has categories of production that divide up horticulture, so that the acreage and output an individual farm may be tallied in several different categories. One must interpolate in order to estimate the overall value of the horticultural industry.

U.S. Census of Agriculture – Vermont data				
Number of farms selling the crop, crop acreage and value of farm-gate sales (\$ million)				
	2012	2007	2002	1997
Apples	275 farms 1,972 acres	264 farms 3,241 acres	243 farms 3,418 acres	237 farms 4,067 acres
Berries – all	475 farms \$3.2	n/a	n/a	n/a
Blueberries (tame)	330 farms 327 acres	213 farms 362 acres	114 farms n/a	86 farms 126 acres
Christmas Trees	232 farms \$2.8	255 farms \$3.5	252 \$2.4	250 farms 184 acres \$2.8
Floriculture crops: greenhouse and field	376 farms 1.46 mil. sq. ft. 270 acres \$15.4	305 farms 1.49 mil. sq. ft. 305 acres \$14.9	n/a 1.71 mil. sq. ft. 217 acres n/a	274 farms 1.4 mil. sq. ft. 244 acres \$11.6
Fruits, nuts and berries	582 farms \$13.5	499 farms \$15.6	325 farms \$9.3	248 \$10.3
Grapes	127 farms 223 acres	45 farms 167 acres	26 farms 33 acres	17 farms 5 acres
Greenhouse Tomatoes	263 farms 0.66 mil. sq. ft. \$4.9	98 farms 0.31 mil. sq. ft. \$2.9	n/a	n/a
Nursery, GH and floriculture crops	661 farms \$25.6	437 farms \$24.8	418 farms \$22.8	665 farms \$18.6
Raspberries	228 farms 135 acres	142 farms n/a	80 farms 88 acres	81 farms 80 acres
Strawberries	145 farms 192 acres	122 farms 185 acres	90 farms 186 acres	97 farms 189 acres
Vegetables	789 farms 3,897 acres \$21.3	494 farms 2,927 acres \$13.2	413 farms 2,893 acres \$10.1	333 farms 2,984 \$6.5

Scale of farms. As is the case with most of agriculture, the vast majority of commercial horticulture farms in Vermont are small. Some of these small farms are run by part-time farmers with other, off-farm, employment; some are a subset of a mix of enterprises on a larger farm (sweet corn on a dairy farm for example); and many are in the ‘start-up’ phase with aspirations for growth.

U.S. Census of Agriculture – Vermont data. Annual farm sales, by commodity.						
2012 sales	All farms	>\$1 million	\$500-999K	\$250-499K	\$100-249K	\$50-99K
Vegetables	814	11	17	21	62	84
Berries	476	5	14	11	27	35
(Tree?) fruit & nuts	171	4	17	3	12	14
Nursery, GH & floriculture	661	3	16	19	53	88
Christmas trees	232	1	0	4	7	19

Horticultural support businesses. Vermont horticultural farms purchase a lot of inputs. Businesses that provide these products and services are largely outside the state, and the region, but the growth of horticulture in recent decades has supported more local ‘industry’ support. Compost and potting soil makers, fertilizer and pest control sales, greenhouse supplies, seed companies, tractor and implement dealers, and small-scale tool makers all exist in Vermont to meet the needs of horticultural farms. Some of these businesses also serve the larger agricultural sector (fertilizer, tractors) and/or residential market (compost, seeds). Examples of Vermont-based business that started up in large part to serve local horticultural needs include High Mowings Seeds, North Country Organics, and Vermont Compost Company. Others that have likely seen an increase in sales to horticultural enterprises over the years include Champlain Valley Equipment, Crop Production Services, Lawes Agricultural Products. Dozens of New England-based companies also do significant business with Vermont farms, including Brookdale Farm Irrigation (NH), Ledgewood Greenhouse Frames (NH), Johnny’s Selected Seeds (ME), and Nourse Berry Farms (MA).

Commodity associations provide technical support, education and advocacy for commercial horticulture in Vermont. Greenworks (formerly The Vermont Plantsmen’s Association) has 173 members dedicated to commercial ornamental horticulture (<http://greenworksvermont.org/about-us/>.) The Vermont Tree Fruit Growers Assn. has xxx commercial members www.vermontapples.org/vtfga/. The NH-VT Christmas Tree Growers Assn. has xxx members www.nh-vtchristmastree.org/membership.php.

Recent growth in membership of the VT Vegetable and Berry Growers Association <http://www.uvm.edu/vtvegandberry/?Page=WelcomeVVBGA.html> is shown below.

VVBGA	2015	2014	2013	2012	2011	2010	2009
Member Farms	323	303	236	252	230	199	163
Commercial Members	37	27	20	22	12	12	12

Technological improvements have increased horticultural production efficiency and the quality, quantity and seasonal availability of fresh produce. Areas of advances include: biological pest controls, cold storage systems, greenhouse and high tunnel design, greenhouse heating / environmental control systems, irrigation systems, seeding and transplanting equipment, and weed cultivation tools.

Market trends. Demand for local food including fresh and processed produce continues to increase. However, anecdotal evidence suggest that direct markets for fresh produce in some areas of the state are saturated, or nearly so, including farmers’ markets and CSAs. This is especially true in areas with high disposable income that are desirable to growers so competition can be intense, and new farmers sometimes said to ‘cannibalize’ the market rather than expand its sales. This issue is being addressed by some growers through participation in new areas of direct marketing, such as winter farmers’ markets, multi-farm and multi-product CSAs and off-season production/marketing such as growing leafy greens through the winter in high tunnels and increasing the quantity and quality of storage crops available through the winter and early spring.

The demand for local produce by institutions is far from saturated, but this market presents obstacles related to price and volume (economies of scale?), and requirements for consistent supply, liability insurance, and food safety certification. A December, 2012 e-mail inquiry to 8 of Vermont’s largest wholesale growers with \$1 million combined sales of winter vegetables determined that they could sell an additional 45% of these crops in late winter--if they had them. Calls to Black River Produce and Upper Valley Produce confirmed that sales of local winter storage vegetable could be increased by about 50% if supplies were available (Callahan and Grubinger, unpublished.) Supermarket chains and small, independent grocery stores also appear to have increased interest in local produce. The level of interest in, and commitment to, local purchasing varies and is sometimes associated with an individual buyer’s preferences and/or a corporate policy.

The recent study “Institutional Demand for Locally-Grown Food in Vermont: Marketing Implications for Producers and Distributors ” found that demand for local food by institutional markets will reportedly remain strong in the near future, but differences exist in motivators and barriers among different types of institutions. Freshness and quality are important motivators, but supporting the local economy and supporting local farmers were more often cited. Institutions favored whole, fresh produce, a result contrasting with some previous studies. A barrier to buying more local food was a lack of availability in desired form for hospitals, colleges and correctional facilities. Food safety was mostly a concern for hospitals, colleges, correctional facilities and nursing homes.

[http://ageconsearch.umn.edu/bitstream/186927/2/JFDR%2045\(2\)_6Becot.pdf](http://ageconsearch.umn.edu/bitstream/186927/2/JFDR%2045(2)_6Becot.pdf)

Threats. Key issues that pose threats to the future growth and viability of commercial horticulture include: access to affordable high quality land; access to affordable and reliable labor (both seasonal workers and management); a changing set of diseases, insects, weeds and wildlife that must be managed; and the costs and stress of compliance as new rules and regulations pertaining to labor, land use, nutrient management and water quality are adopted. Longer-term threats include volatile energy costs; an increase in extreme weather events; and continued corporate consolidation that limits options for farmers, input suppliers and product buyers. (Expand on these?)

Some threats can and should be mitigated through specific policy changes. For example, clarity is needed about water use and packing-shed discharge regulations on vegetable farms. There is also a need for long-term stability in the H-2A temporary seasonal worker program, and specifically for integrated and comprehensive immigration reform at the federal level.. (Expand policy suggestions.)

Opportunities. Areas that present potential advantages include: a strengthening local food ‘movement’ that recognizes and often rewards the multiple benefits of healthy farms and fresh food; a local food safety accreditation program (now in development with the VVBGA) that supports an affordable, realistic, and transparent approach to reducing risks. Strong interest among young people in agriculture and in horticulture in particular bodes well for future farmers and farm employees, as does new technologies for energy conservation and efficiency, and the high level of social capital/connectedness of the state’s grower community.

Technical support for commercial horticulture in Vermont is relatively strong. Business planning is available from Farm Viability service providers. Production, pest management and soil fertility advice is available from UVM Extension. Organic certification support and technical advice comes from NOFA-VT. VAAFV provides regulatory guidance and market promotion. Many other organizations and agencies also provide support to commercial growers, including the Farm Service Agency (FSA), the Natural Resources Conservation Service (NRCS), the Vermont Land Trust (VLT), the Working Lands Enterprise Board (WLEB) and many more.

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