Vermont Meat Production
2007 and Beyond

Sam Comstock
University of Vermont Extension
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Note: The figures supplied here are as accurate as possible, but they are only estimates and approximations based on data collected by others, published elsewhere. See the footnotes and appendix for assumptions and sources. Use these data with caution and validate independently before basing decisions on them. This document is primarily intended to generate discussion; any and all feedback would be appreciated.

Vermont beef, lamb, and hog production is at a crossroads; decisions made in the next few months will likely impact the state for years to come. Large amounts of land continues to become available for livestock every year as the number of dairy cattle continues to decline, and the market for locally produced meats continues to grow stronger. However, there is a bottleneck at the slaughter and processing stage of production that limits the use of available land to supply existing markets. A year ago there was sufficient processing capacity to service the production, but the loss of two facilities to fire has resulted in too little capacity. If slaughter and processing capacity is not restored and expanded, the land released from dairy farming will be developed or revert to forest at an accelerating rate.

In the past decade the Vermont dairy herd has declined by 22,000 cows (plus their replacements)[1]. This suggests that approximately 44,000 acres of farmland previously used to produce forage for dairy cattle became available for beef and sheep production[2]. Despite this increase in available land, however, the production of beef and sheep has not increased.

Vermont Meat Consumption

The demand for Vermont-raised meat versus commodity meats is not well researched, but overall consumption of red meats is. In the year 2000, Americans consumed 64 lb of beef, 1.4 lb of lamb and veal, 47.7 lb of pork, and 66.5 lb of poultry apiece, on average[3]. Converting this national consumption data to Vermont consumption, expressed in terms of live animals, the demand is for 95,000 beef cattle, 21,000 lambs, 283,000 hogs, and 10,000,000 chickens[4]. The market for Vermont meat is greater, due in part to our proximity to major metropolitan areas. These markets are being supplied by marketing cooperatives such as VT Quality Meats and Fancy Meats of Vermont, by regional marketers such as Pineland Beef, Azuluna Veal, and Northeast Family Farms, and by individual farmers doing mail order via the Internet or delivering products to out of state farmers' markets. Live animals also move out of Vermont through national commodity markets.

Vermont Meat Production

Vermont production of beef and veal is dominated by cull dairy cattle and bull calves, but the vast majority of this production is shipped out of the state as live animals, especially since the closing of Swanton Packing. There are approximately 10,000 cows of beef breeds, 10,600 ewes, and 600 sows in the state, plus the roughly 35,000 cull dairy cows and 56,000 dairy bull calves produced annually[5]. Conventional hog production relies heavily on purchased grains, making it difficult to compete with corn-belt states, but local markets have been expanding in recent years.

Clearly production has not exceeded Vermont consumption, let alone that of cities in the Northeast. Vermont's beef herd produces enough for 11% of the state's beef consumption. Beef production is nearly 100% of consumption when factoring in dairy beef production, but most of that is shipped to Pennsylvania for processing or to other states as veal calves. Sheep production meets 41% of the consumption, but a significant amount of this production is marketed in New York and Boston. Hog production is only 2% of Vermont's consumption. Based on my knowledge of actual production, the USDA's sow estimates may be half the real herd, but regardless, it is a small compared with what is consumed.

Vermont Meat Processing Capacity

Vermont has no large slaughtering facilities; the nearest are Moyer Packing and Taylor Packing, both located in Pennsylvania. In recent years there were 7,500 cattle, 7,000 sheep, and 3,000 hogs slaughtered in Vermont's commercial facilities annually[6]. With the loss of Fresh Farms (in Rutland) to fire, the totals are likely reduced to 5,000 cattle and 5,500 sheep, although production at some facilities increased to partially cover the demand. Fresh Farms did 37 % of the cattle slaughter (including some cull dairy and some veal) and 15 % of the slaughtering of sheep.

The totals above include livestock produced in neighboring states. Some Vermont livestock were slaughtered in other states, with some of that meat returned for sale here. The December 2006 fire at Adams' Farm in Athol, MA, has increased the number of producers in other states looking to Vermont for slaughter and processing services.

Note that slaughter is only the first step in preparing live animals for consumption, and the subsequent steps limit the slaughtering step (i.e. Vermont slaughter plants can kill many more animals than they can chill and further process). Following slaughter, the carcass is hung in a cooler for a couple of days to chill. Once chilled, they can be processed into primals or retail cuts, or they can be held in the cooler for a period of aging. Aging increases tenderness of beef in particular, and it is typical for customers to request a two-week hang or longer. The capacity of the cooler, length of time aging, proportion of carcasses that need aging, and speed of the cutting and wrapping all restrict the number of animals that can be slaughtered.

This can be somewhat alleviated by transporting chilled carcasses to off-site processing facilities, assuming the existing slaughter facilities will provide this service. If the transportation were part of the service offered by either the slaughterhouse or the off-site processor it stands a chance to be viable. Left to the farmer to arrange and carry out, however, it adds yet another vehicle trip and level of complexity.

There is a notable amount of on-farm slaughter, with chilling and processing either on-farm or at a custom facility. This will continue, but due to federal regulations this meat cannot be sold, greatly limiting the market. There are efforts underway to change federal law in regard to on-farm slaughter, but the difficulty in changing federal law to allow interstate shipment of state-inspected meat suggests that seeking changes related to on-farm slaughter outside of an inspected facility will be a protracted struggle. On-farm slaughter under inspection in a mobile facility is a variation that may work for some, but the meat must still chill and age, suggesting this solution will require additional processing facilities. No reliable estimates of this trade were found.

Processing Capacity Compared to Supply and Demand

Cattle processing capacity, at an estimated 5,000 head, represents 5 % of Vermont's beef consumption (not counting that some of those cattle are from other states) and about 50 % of current production. There are numerous anecdotes of production for local markets being restricted by processing capacity and sub-par quality of service. The Vermont Agency of Agriculture uses the arbitrary target of 10 % local production for their "Buy Local" campaign; this suggests the need for increased capacity well beyond what existed before the fires. There is also an opportunity for a sizeable expansion of cattle slaughter due to the increasing number of organic dairy herds that could supply organic cull cows and organic feeder steers for a new market (see the 2006 Vermont Ground Meat Study at www.uvm.edu/livestock/meat). Cattle provide the majority of income to most Vermont slaughterhouses, accounting for 84 % of the carcass weight processed; new ventures should study this market with care.

Sheep processing capacity, at 5,500 head, is above the arbitrary 10 % local consumption figure. However, a significant proportion of these lambs are marketed outside of Vermont, and that market still remains largely untapped. With increasing grain prices, grass-based lamb production may well play a significantly greater role on Vermont farms.

Hog production in Vermont is unlikely to expand enough to meet 10 % of the consumption, but some hog producers are doing quite well in recent years. Grain prices remain a wild card, but hogs' ability to use pasture and waste feeds suggest they will continue to have a place on Vermont farms. If they can be finished economically, there is room for considerable expansion of production.

Discussion

Without increased meat processing capacity it is likely that the 4,000 acres of farmland annually leaving dairy production will not be used for other livestock production. Some will likely enter vegetable or fruit production, some will be used for horses, and some might be used for biomass-related energy production, but much of it, including older-generation conservation easements, will be at an increased risk of being fragmented, lost to development, or becoming less-productive estate properties.

Service from existing facilities had improved markedly in the past few years as Over The Hill Farm and The Royal Butcher provided additional capacity and competition. This occurred at a time of historically high beef prices. Farmers responded by expanding their marketing efforts of beef within Vermont. The loss of Fresh Farms more than erased those gains in capacity, and there has been a decline in service, largely due to facility limitations and their people being stretched to their limits. The new markets have been put in jeopardy by their limited capacity to service existing demand, let alone their inability to expand production and market share.

It is possible that existing facilities can be re-tuned and shored up by state aid in various forms including technical advice that leads to greater throughput and reduced expenses, workforce development, and more balanced seasonal demand of services. While that is possible, it is also possible that political attention will shift, markets will be lost, existing plant operators will retire, and equipment will continue to age.

Regardless, it is very unlikely that the existing facilities can serve either the potential demand or the potential production; they are a significant bottleneck. It is clear that immediate short-term action is needed. However, both short-term and longer-term actions should be guided by a vision of what might be.

Footnotes:

1. USDA National Ag Stats Service data (Table 1, below).
2. An estimate, allowing for two acres per cow of hayfields, corn ground, and pasture to feed her and her replacement heifer. An alternative, not used, would be to estimate the amount of land required to properly handle the manure created.
3. USDA Economic Research Service. http://www.usda.gov/factbook/tables/ch2table21.jpg
4. Based on 623,000 Vermont population. Beef retail yield estimated at 65% to get carcass weight and assumed 650 lb carcass to convert to per-head basis. Sheep retail yield estimated at 60% to get carcass weight and assumed 70 lb carcass to convert to per-head basis. Hog retail yield estimated at 70% to get carcass weight and assumed 150 lb carcass to convert to per-head basis. Poultry retail yield estimated at 80% to get carcass weight and assumed 5 lb carcass to convert to per-head basis (does not correctly reflect turkey contribution on per-head basis). Final numbers were rounded.
5. Numbers reflect NASS estimates of beef cows that calved, breeding ewes one year and older, and breeding hogs. Dairy cull cows based on 2007 data (Table 1) with an assumed 25% culling rate with no mortality. Bull calf estimates based on same cow herd with 50% males and 80% living.
6. From Table 2. Data from Brault's actual slaughter was not available, but was estimated. Based on trends at other plants it was less than the capacity figures. The figures in the text are round-number estimates. Note that the 2006 Ground Beef Study suggested 12,000 cattle slaughtered under USDA inspection annually; that estimate was not supported with a source. Better documentation of slaughter capacity, cooler capacity, and processing capacity are needed, allowing for differences in species (size, time for aging, and processing time).

Appendix:

Table 1. Vermont livestock production

	Dairy Cows	Beef Cows	Ewes	Sheep sold	Sows	Hogs sold
1997	162,868	12,340	9,732	11,999	594	4,992
2002	150,626	11,276	9,189	8,341	429	4,933
2006		10,000	10,600	12,500	600	4,600
2007	140,000					

NASS Census of Agriculture, 2005 New England Agricultural Statistics and December 2006 Agricultural Review

Table 2. Vermont commercial slaughterhouse capacity and actual slaughter.

	Hogs		Sheep		Cattle	
	Capacity	Actual	Capacity	Actual	Capacity	Actual
Brault’s	700		500		1200	
Clark’s	100	100	100	100	300	200
Fresh Farms	0	0	1000	1000	3000	2800
PT Farm	400	350	200	150	1200	1000
Sharon Beef	0	0	5000	3500	2000	600
Harrington	700	500	600	300	1000	650
Over The Hill	3000	1200	3000	800	1500	550
Royal Butcher	1400	700	1200	400	4500	800
		2850		6250		6600

Economic Analysis of Agricultural Markets in Vermont. SJH and Co. Revised August 26, 2006. (Brault’s data collected when they were planning to close. Fresh Farms lost their Halal market and was slaughtering pigs in 2006)