

**New Hampshire Livestock Inventory
and
Slaughter Facility Feasibility Study**

19 June 2003

Prepared for
New Hampshire Farm Bureau Federation

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ACKNOWLEDGEMENTS

This project was funded by a grant from the New Hampshire Department of Agriculture, Markets and Foods.

The Livestock Committee of the New Hampshire Farm Bureau Federation and the New Hampshire Game Farmers Association contributed to the survey development and report review: Henry Ahern, Dwight Barney, Bruce Clement, Jeff Conrad, Steve Corsetti, Cindy Downing, Rob Johnson, Dave Langley, Clark Lindley, Dr. Clifford McGinnis, Ed Merrill, Larry Moore, John & Julie Morse, Jim Neil, Erick Sawtelle, Patrick Sheehy, Ernie Vose and Mary Yatsevich.

Staff of the NHFBF provided assistance in mail handling and other areas: Pam Carlson, Sharon O'Rourke and Melissa McConnell.

John Tappan provided invaluable service in all phases of the project.

Thank you to all that responded to the survey, your voluntary participation made this project possible.

INTRODUCTION

The New Hampshire Farm Bureau Federation (NHFBF), in collaboration with the NH Game Farmers Association, received a grant from the New Hampshire Department of Agriculture, Markets & Food in 2002 to conduct a slaughter facility feasibility study. A survey was developed and distributed by mail, to determine current livestock and poultry numbers and to collect information about slaughter facility use and needs in the state.

This project was motivated by a need to improve the infrastructure of the livestock and meat production industry in New Hampshire. Improved infrastructure could increase processing and marketing options for livestock producers and increase the amount of locally grown and processed meat available to stores, restaurants, and individual consumers. Information gathered through this survey will help to determine the need for an additional or expanded federally inspected livestock processing and secondary processing facility.

METHODS

A four-page survey was developed and mailed to 3,155 farms in October 2002. A copy of the survey is included in the Appendix. The mailing list was compiled from seventeen different sources (see Appendix). Additional surveys were mailed in response to call-in or e-mail requests. Surveys were also handed out at producer events. The survey packet included a stamped, addressed return

envelope. Reminder postcards were mailed in November (1,988) and December (1,560) to those that had not yet responded.

RESULTS

A total of 1,055 surveys were returned. This analysis is based on 594 farms reporting livestock produced or raised for slaughter.

Respondents could check the first box on the survey form “I do not produce or raise livestock for slaughter”. There were 455 surveys returned with this box checked. Those reporting livestock kept only for pets, fiber, etc. were not included in the survey data. Six surveys with livestock were unusable due to insufficient information, and respondents could not be contacted.

The Post Office returned 390 surveys for forwarding order expired, undeliverable as addressed, etc. Surveys were re-mailed with the corrected address where the Post Office provided a forwarding address.

LIVESTOCK TABLES

Respondents were asked to fill out a livestock table for each type of animal they produced or raised, or purchased for resale. The instruction sheet of the survey included a completed sample livestock table.

Privacy statement

Respondents were assured of confidentiality. Individual information provided on the survey would not be shared with any other party and only presented in aggregate form. Data is presented so as not to disclose individual farm information.

Produced or raised, or purchased for resale

Most animals were categorized as produced or raised. This includes those bred on farm as well as animals such as piglets, turkey poults, broiler chicks etc. which are often purchased and then raised to desired weight or age for slaughter or live sale. The survey instructions defined “purchased for resale” to mean animals that are sold at essentially the same size and weight as purchased. Only 11 out of 594 (1.85%) farms handled livestock by this method. Table 1 shows information for livestock purchased for resale. Livestock dealers were not surveyed. The Division of Animal Industry Activity Report for 2002 reports 67 licensed livestock dealers in the state.

Livestock types

Sixteen different types of livestock and poultry were included on the livestock tables with a space to write in other types. Five additional types were added during data entry. Some respondents lumped all types of livestock on the farm into one table. Phone call follow-up was attempted to clarify information for these farms. Where no contact was made, or numbers of animals on the farm was small, livestock information was entered into a separate “combined livestock” table (41 entries) in the database. Table 2 lists the number of farms by county reporting each livestock type. Just over half of the farms (308, 51.9%) reported having only one type of livestock. The remainder (48.1%) reported two to six types of livestock.

Breeds

Many respondents did not report the breed(s) of livestock. Table 3 lists breeds by livestock type. Breeds are reported as a pure breed or cross. If the animal was listed as a crossbreed, an entry was made on the list for each cross component. Beef cattle included 24 breeds as pure or cross components. Hereford and crosses were the most frequently mention breed (41%, includes Polled Hereford), followed by Angus (11%). Dairy Beef included nine breeds with Holstein predominating (46% of mentions). Twelve goat breeds were mentioned. Nubian was mentioned most frequently (27%) followed by Alpine (17%). Almost all goats listed were dairy goats. Thirty-one sheep breeds were mentioned. No breed predominated, but Dorset and Dorset crosses were the most mentioned (22%.) Nine swine breeds were mentioned with Yorkshire and Yorkshire crosses predominating (46% of mentions).

Breeding stock and all other

Respondents were asked to indicate the total number of animals on the farm “today” (the day the survey was filled in). The numbers provided, however, often seemed to include all animals for the year, including animals already sold or slaughtered. These numbers could be used alone, but should not be added to numbers sold by month, to avoid double counting. See Table 4, Livestock Table Totals.

Production rates seemed to be low for many livestock types, including beef cattle, swine, sheep, goats and others. This observation is based on number of breeding stock reported by a farm and the number of animals distributed (slaughtered or sold). Livestock numbers may be under reported or production levels may actually be low.

Number of animals sold per year/sold by month

Most respondents did not fill in the number sold per year. In some cases, the number sold per year did not equal the sum of the numbers sold by month. Values were entered into the database as provided. See Table 4, Livestock Table Totals; and Table 5, Annual Distribution of Livestock Sales. Figures 1a-g show annual distribution of sales by month for beef cattle, dairy beef, sheep, goats, swine, turkeys, and broilers and chickens.

Number of animals distributed by each method

Numbers provided in this category often did not match with numbers in the previous section (numbers per year or month). Numbers were recorded as provided. In some cases numbers differed because animals slaughtered were for personal use, so the respondent did not include those animals in the “sold” categories. See Table 4, Livestock Table Totals. (A custom grazing operation, sending over 800 sheep live to auction in 2002 was not included in the analysis because the operation will be moved out of state in 2003.) Table 6 shows methods of distribution by animal type for all farms and for larger farms, listing the percentage for each method.

The majority of farms reported very small numbers of livestock. Figures 2a-e summarizes the number of livestock sold and/or slaughtered per farm for beef cattle, sheep, swine, goats and broilers and chickens. This value was calculated for each farm as the maximum of annual sales and numbers distributed:

$$\text{SoldAndOrSlaughtered} = \text{Max}[\text{SoldPerYear}, \text{Sum}(\text{Jan}, \text{Feb} \dots), \text{Sum}(\text{Custom}, \text{USDA} \dots)]$$

For beef cattle, 66% of farms sold or slaughtered 4 or fewer per year; for sheep, 39% of farms sold or slaughtered 5 or fewer per year; for swine, 58% of farms sold or slaughtered 4 or fewer per year; for goats, 42% of farms sold or slaughtered 4 or fewer per year; for broilers and chickens, 42% of farms sold or slaughtered 30 or fewer per year.

Table 7 shows livestock production by farm size for beef cattle, sheep, swine, and goats. Numbers and percentage are provided for all farms and for farms producing from two to thirty or more animals.

The New England Agricultural Statistics Service (USDA) periodically publishes survey data. Much of the data from New England states is only provided regionally. 1997 New Hampshire farm and livestock data (from the 2001 publication) is compared with survey data in Table 8.

SLAUGHTER FACILITIES & METHODS USED

Respondents were asked to provide information about the slaughter facilities used, indicating USDA or custom, name and location of facility, and one-way

distance and travel time. Nine questions were asked relating to slaughter facilities and methods. The first question, “Are facilities usually available when needed?” drew some mixed responses, i.e. either both Yes and No circled, or neither circled, with additional qualifying information written in. A new value, It Depends, was created in the database to code these responses. A new field was also created to record the appointment lead times mentioned. Responses to questions are summarized in Table 9.

The terms “custom” and “USDA” were not defined. Some respondents seemed to be uncertain about the meaning these terms as entries under slaughter methods and slaughter facilities did not match, or a facility was listed as one type, but it is not licensed as such.

“USDA” or Federally Inspected meat is slaughtered and processed in an approved federally inspected plant. A qualified USDA meat inspector inspects each animal and carcass. Federally inspected meat can be sold: by the cut; to retail establishments; in-state and out-of-state. Federally inspected plants are also referred to as “commercial” or “Type 1” processing plants.

“Custom” processing refers to meat that is not inspected. It is to be used exclusively by the owner of the animal, members of the owner’s household, along with non-paying guests and employees. “NOT FOR RESALE” is stamped on each package immediately after wrapping. Custom facilities are “Type 2” facilities, which slaughter and process meat only for private individuals.

Livestock are classified by the USDA as amenable or non-amenable. Amenable livestock are cattle, sheep, swine, goats, horses, mules, other equines, and domesticated birds. Examples of non-amenable livestock are bison, deer, elk, ostrich, emu and gamebirds (quail, pheasant, partridge). USDA requires antemortem and postmortem inspection of amenable livestock as a condition for retail sale. These inspections are not required by USDA for non-amenable livestock. However, in some states regulations may require restaurants to serve only inspected meat products. A producer or processor can voluntarily request inspection of non-amenable livestock. USDA charges an overtime fee for such inspection.

New Hampshire producers reported using slaughter facilities in six states. Eleven USDA facilities were used: Vermont-3, Maine-3, Massachusetts-2, New Hampshire-1, Connecticut-1, and New York-1. (See Appendix for the list of USDA facilities used). Approximately sixty custom facilities were mentioned. A summary of slaughter facilities mentioned is shown in Table 10. Producers were not asked about frequency of use or number of animals per visit so this table provides information only on the number of times a facility was mentioned and whether it was used as USDA or custom.

Figure 3 shows the distribution of distances traveled to slaughter facilities. The minimum distance traveled to USDA facility was 5 miles, to a custom facility 1 mile. The maximum distance traveled to a USDA facility was 300 miles, to a custom facility 150 miles. The average distance traveled to USDA facility was

53.1 miles, to a custom facility 31.3 miles. The median distance traveled to a USDA facility was 42 miles, to a custom facility 25 miles.

In a few cases, livestock auctions were named in this section. Livestock auctions mentioned were Rumney Livestock Auction, Rumney, NH; Northhampton Cooperative Auction, Whately, MA; FLAME Livestock Auction, Littleton, MA; and New Holland Livestock Auction, New Holland, PA.

SECONDARY PROCESSING

Respondents were asked to provide information about secondary processing, whether or not they currently used or were interested in four processing options. The terms were not defined. Some were unsure about the term “cryo-vac packaging”, as indicated by a “?” response. Table 11 summarizes the responses.

SPECIALITY LIVESTOCK OR MANAGEMENT FEATURES

Respondents were asked whether they used certain specialty livestock or management features. The terms were not defined. Some were unsure about the terms “kosher” and “halal” as indicated by a “?” response. Table 12 summarizes the responses.

“Kosher” is to slaughter and process animals according to Jewish religious law. “Halal” is to slaughter and process animals according to Muslim religious law.

Table 13 shows organic management by livestock type. The totals are compiled separately for farms reporting only one animal type and for farms reporting more than one animal type because the questions about specialty livestock or management features were not necessarily associated with any particular animal type.

ISSUES OF CONCERN

Respondents were asked to indicate the level of importance (very important, somewhat important, or not important) of eight factors relating to slaughter. Table 14 summarizes the responses.

FUTURE OF YOUR LIVESTOCK OPERATION

Respondents were asked to indicate expectations for their operation over the next three years – Increase, Decrease, or Stay The Same, and the factors affecting their decision. Table 15 summarizes the responses. Table 16 lists future expectations by animal type for all farms and for larger farms. A list of factors was accumulated and tabulated, indicating frequency of occurrence and whether

associated with an expectation to Increase, Decrease, or Stay The Same. Table 17 lists these factors.

INFORMATION AND TRAINING

Respondents were asked if they were interested in information or training in four areas. Table 18 summarizes the responses. Table 19 lists the type of information or training respondents were interested in by animal type.

ADDITIONAL COMMENTS

Comments were entered into the database, as written, for each farm table. Where the comment pertained to another section of the survey, it was entered there. Comments were recorded from 119 farms. Repeated topics of concern include:

- ❖ The need for USDA facilities: current lack of facilities or long distance to existing facilities (13 times); to improve marketing options and profits (12 times); needed in specific areas of the state (7 times). Also mentioned was the need for more custom butchers (5 times).
- ❖ Scheduling issues or the long wait to get into facilities (18 times)
- ❖ Satisfaction with current or former facility/butcher (14 times)
- ❖ Dissatisfaction with slaughter facilities – not clean, not trustworthy, concern about not getting own meat back (10 times)
- ❖ The need for high quality/standards at slaughter facilities – clean, trustworthy, attention to detail, focus on customer satisfaction (10 times)
- ❖ Need for poultry processing facilities (10 times)
- ❖ Cost issues – cut and wrap costs increasing, high cost to process smaller animals, high processing and transportation costs (7 times)

GEOGRAPHICAL DISTRIBUTION OF LIVESTOCK PRODUCTION

The survey was mailed with a stamped return envelope that had the farm's return address label so that a town could be associated with the return for analysis of the geographic distribution of livestock production. The incorporated town for the farm's mailing address town was recorded as the location of the farm. For example, if the mailing address town was Contoocook or Hopkinton (both are accepted by the USPS as a standard town designation for postal code 03229 with Contoocook being the default), the town was entered as Hopkinton, because Hopkinton is the incorporated town with a defined geographical boundary. A few returns had the address label removed from the envelope, so they were recorded as being located in the Unknown town in the Unknown county.

To provide a picture of the distribution of production across the state, several methods were considered. A table or a map of production by town would reveal production figures about some individual farms. Summarizing production by county introduces political boundaries that may not coincide with geographical production variation. The counties vary in size and county boundaries may split production centers. In addition, it is difficult to identify the centers of production from a table.

Maps are provided for many individual animal types and for some combinations of animal types to help identify the centers of production. The maps are bubble charts where the location of the bubble represents the location of the town and the diameter of the bubble represents the number of animals within a circle around the town. The radius of the circle is specified on the map. For this analysis, all production in a town is considered to occur at the geographic center of the town. Not all of the animals produced within the circle are included in the count. For each of the towns within the circle, the fraction included is equal to the distance to the perimeter divided by the radius. For example, if the radius is set to 15 miles, two thirds of a town's animal production will be counted if that town is 5 miles away whereas only one third will be counted if the town is 10 miles away and none will be counted if the town is 15 (or more) miles away.

This method has two advantages over simply counting all animals within some radius. The first advantage is that it more closely reflects a potential customer's decision-making process. Although other factors may overrule, the shorter the travel distance, the more likely a producer is to use a given facility. A second advantage can be seen by considering the map that depicts an isolated production source. If all production within some radius is counted, then the production counts for all towns within that radius will be the same. The map will seem to show that all locations inside the circle around the isolated source are equally desirable. See Appendix C for a more complete example of the reporting method used.

The radius chosen depends more on the size of the State of New Hampshire, than on the distance producers are willing to travel. The distance from the center of the easternmost town to the westernmost town is only about 90 miles so a circle with a radius of 15 miles spans a third of the width of the state at its widest part. The database contains no information about production outside the state so the towns in the interior of the state are artificially favored as the limiting radius is increased. The 15-mile radius used is shorter than the median one-way distance reported for travel to custom facilities and much shorter than the median one-way distance reported for travel to USDA facilities. There is, however, a significant difference in how these distances are measured; the travel distance is measured along roads, while the sample radius is a calculated straight-line distance.

The maps include a list of the top towns for the animal type(s) and sample radius. The count of animals that is reported for each town is not meant to be an absolute predictor of the number of animals that might be brought to a facility in that town.

Figures 4a-f show the geographical distribution of production for those animal types for which there were significant production numbers. The number sold and/or slaughtered is used as the number produced. The animal types not mapped have few producers so reporting by this method would reveal individual production information.

Some maps show the distribution of more than one animal type. To reflect the relative value to the slaughter facility of processing different animal types, the number of animals of each type is multiplied by a weighting factor. These factors are not strictly proportional to animal size, but are more reflective of animal processing costs.

DISCUSSION

Livestock production has a long and significant history in New Hampshire. NH producers are unlikely to successfully compete in the commodity meat market. However, there are opportunities for producers in local and niche markets, such as natural, grass-fed or organic products marketed to local or upscale restaurants or specialty stores (7)(15). The key to marketing meat in New Hampshire is to produce enough product of consistent (uniform) quality to supply buyers, stores and restaurants. Enough product, available year round, is also the key to keeping slaughter facilities in business.

A USDA slaughter facility is a costly investment. The Hudson Valley (NY) Livestock Marketing Taskforce conducted a Processing Facility Feasibility Study in 1999 (3). A new slaughter and processing plant of 5,000 square feet was estimated to cost \$375,000, not including land and site work. This plant was proposed to include a 1,000 – 1,200 square foot slaughter department capable of handling 2,000 beef, 2,200 hogs and a comparable number of other species per year. The above facility cost includes space and equipment for coolers, employee areas, fabricating operations, offices and utilities. Following a start-up period, estimated numbers of animals processed per year were 1,500 beef, 1,250 hogs, 1,000 sheep and 250 other animals.

An existing slaughter facility (10,000 sq. ft.) in Connecticut is being revitalized. The start-up stage proposed 6 employees processing 50 beef and 400 other stock per week. Other stock includes hogs, sheep, lambs and veal. Stage 2 would have 24 employees processing 300 beef and 700 other stock per week (20). A small facility (3,000 sq. ft.) proposed in New York would have 5 employees processing 30 cows, 42 calves, 12 pigs and 42 sheep and goats per week. The facility would also handle non-amenable livestock and poultry (21). The State University of New York, College of Agriculture and Technology at Cobleskill has proposed a Small Producer Meat Processing Initiative. This project would include an educational component, using students to assist in processing. The small facility (2,800 sq. ft.) would process poultry, rabbits and fish in addition to amenable livestock. Annual projections for the first year are: beef, 126; hogs,

178; veal, 156; lambs/goats, 350; chicken, 13,900; turkey, 1,025; rabbits, 960; and fish, 600 (22).

OPTIONS

- ❖ Seek funds and/or investors (federal, state, private) for a new USDA facility. USDA Handbook 570 “U.S. Inspected Meat and Poultry Packing Plants, A Guide to Construction and Layout ” specifies facility requirements.
- ❖ Seek funds and/or investors (federal, state, private) for expanding or upgrading an existing facility, either USDA or custom. USDA provides a series of exemptions for small (15 or fewer animals per day) federally inspected plants. Those exemptions are found in the USDA document “Federal Facilities Requirements for Small Existing Meat Plants”.
- ❖ Investigate setting up a state inspection program. State programs maintain an inspection system that is “at least equal to” the provisions found in the federal inspection regulations. Amenable meat and poultry products (beef, pork, lamb, goats or domesticated birds) receiving state inspection are solely for distribution within such state. There is no restriction on interstate shipment of state inspected non-amenable species such as bison, deer, emu or pheasant. Around 25 states operate state inspection programs. Vermont has a state inspection program (12)(16). Maine is implementing a state inspection program, projected to be up and running by mid summer 2003. Efforts continue to encourage Congress to support and pass Senate Bill 1988, the New Markets for State Inspected Meat Act, introduced by Senator Daschle D-SD in 1999. This bill would allow interstate marketing of state inspected meat (9)(11).
- ❖ Investigate mobile processing units for poultry and other livestock. Mobile Processing Units (MPU) are currently used primarily for poultry (6)(10). One MPU based in NH also services surrounding states. Exemptions for small-scale poultry producers provide options for using MPU’s (5). Larger MPU’s are beginning to be designed and used for livestock such as sheep, hogs, cattle and bison. A MPU operating in Washington State field slaughters on the farm under USDA inspection. Cooler capacity is for 10 steers, 40 lambs or 20 hogs. Processing rate for lambs is about 20 animals per 8-hour day. Cost of the unit is approximately \$150,000 (4)(13). Developers of this innovative approach to livestock processing are working with FSIS/USDA to assure units are in compliance with regulations.
- ❖ Improve marketing infrastructure:
 - Review state livestock and marketing programs and regulations. Propose changes to increase marketing opportunities to farmers while providing for food safety
 - Educate producers about marketing options through programs, workshops and publications

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- Investigate a regional approach to marketing issues
- Develop systems for pooling animals for sale
- Develop cooperatives for selling animals

APPENDIX A: USDA SLAUGHTER FACILITIES MENTIONED

New Hampshire

- LeMay & Sons Beef, 126 Daniel Plummer Rd, Goffstown, NH 03045 (603) 622-0022

Vermont

- Fresh Farms Beef, 136 Park St., Rutland, VT 05701 (802) 773-3074
- Moore Beef, S. Main St., St. Johnsbury, VT 05819 (802) 748-8323
- Sharon Beef, RR1 Box 408, Sharon, VT 05065 (802) 649-1859

Massachusetts

- Adams Farm, 775 Beardsden Rd, Athol, MA 01331 (978) 249-9441
- Blood Farm, 94 West Main St, PO Box 258, West Groton, MA 01472 (978) 448-6669

Maine

- Herring Bros, Inc., Rte. 15 Dover-Guilford Rd., Dover-Foxcroft, ME 04426 (207) 876-2631
- Sanford Butcher Shop, 578 Lebanon St, Sanford, ME 04073 (207) 324-2800
- Windham Butcher Shop, 247 Varney Mill Rd., Windham, ME 04062 (207) 892-4203

Connecticut

- Stafford Enterprises, Inc., 30 Furnace Hollow Road, Stafford Springs, CT 06076 (860) 684-0222

New York

- Schaller's Packers, PO Box 155, Bridgewater, NY 13313 (315) 822-3924

APPENDIX B: MEAT INSPECTION CONTACTS – FEDERAL & STATE

USDA/FSIS Field Office, District 65 (CT, ME, MA, NH, NJ, NY, RI, VT)

- Michael H. Mayer, Inspection Coordinator, USDA/FSIS, Albany District Office, 230 Washington Ave. Extension, Albany, NY 12203 (518) 452-6870

New Hampshire Department of Agriculture, Markets & Foods, PO Box 2042, Concord, NH 03302-2042

- Division of Animal Industry, State Veterinarian, Clifford W. McGinnis DVM (603) 271-2404
- Livestock and Meat Inspection, RSA 427:33-59
www.nh.gov/agric/animrl.html

Vermont Department of Agriculture, Food & Markets, Food Safety & Consumer Assurance, Meat Inspection Service, 116 State Street, Drawer 20, Montpelier, VT 05620-2901

- Section Chief, Curtis Stasheski (802) 828-2426
- Veterinary Medical Officer, Dr. Dallas Meek, DVM (802) 828-3447
- Compliance Officer, Randy Quenneville (802) 828-2426

Maine Department of Agriculture, Food and Rural Resources, 28 State House Station Deering Bldg.-AMHI Complex, Augusta, ME 04333-0028

- Division of Quality Assurance & Regulation. Food Inspection Supervisor: Red Meat & Poultry Inspection. Ken Morris (207) 287-4516

Massachusetts Department of Food and Agriculture, 251 Causeway Street, Suite 500, Boston, MA 02114 (617) 626-1700

APPENDIX D: MAILING LIST SOURCES

Source	Number
NH Dept of Agriculture State Veterinarian Livestock List - NPIP	33
NH Dept of Agriculture State Veterinarian Livestock List - Ratite	8
NH Dept of Agriculture State Veterinarian Livestock List - Bison	15
NH Dept of Agriculture State Veterinarian Livestock List - Cervidae	41
NH Dept of Agriculture State Veterinarian Livestock List - Goat	196
NH Dept of Agriculture State Veterinarian Livestock List - Sheep	145
NH Dept of Agriculture State Veterinarian Livestock List - Swine	214
NH Dept of Agriculture State Veterinarian Livestock List - Cattle	1352
New Hampshire Farm Bureau Federation – Livestock Code (3 county)	479
New Hampshire Farm Bureau Federation – Livestock Code (7 county)	1461
New Hampshire Department of Agriculture, Markets, and Food (internet)	122
New Hampshire Fiber Sources and Shops (internet)	45
Rochester Fair Agricultural Superintendents (internet)	7
www.highlandcattle.org/NH.htm	52
New Hampshire Pork Producers	71
New Hampshire Dairy Goat Association	46
New Hampshire Poultry Growers Association	7
New Hampshire Game Farmers Association	27
New Hampshire Ayrshire Club	6
Deerfield Fair	44
New Hampshire Sheep & Wool Festival	21
Weekly Market Bulletin – Fresh Turkey Producers	8
Beginner Farmers of New Hampshire	170
Personal Contacts	3
www.ruralheritage.com (ox teams for sale)	7
TOTAL	4580

LITERATURE CITED & RESOURCES

* Indicates publication or copy that is included in Final Report master copy.

(1)* Directory of Processing Plants in Illinois. J. L. Brussell, M.M. Samy and B.E. Swanson. May 2000. Department of Agricultural and Consumer Economics. University of Illinois at Urbana-Champaign. AE-4736. pp. 14.

(2)* Farmers Guide to Processing and Selling Meat or Poultry. J. Berry. June 2000. Agricultural Marketing Educator. Lehigh County Cooperative Extension. Pennsylvania State University. pp. 16. www.lehigh.extension.psu.edu

(3)* Hudson Valley Livestock Marketing Task Force. Hudson Valley Meat Processing Facility Feasibility Study. <http://www.ansci.cornell.edu/extension/srmarketing/marketingdir/hudsonfeas.htm>

(4) Land Trust Sponsors Small Farm Project. M. Musick. 27 November 2001. http://csfcolorado.edu/archive/2001/food_security/msg0062.html.

(5)* Legal Issues for Small-Scale Poultry Processors: Federal and State Inspection Requirements for on-Farm Poultry Production and Processing. J. Hipp and S. Polson. December 2001. www.attra.ncat.org/livestock.htm. or <http://appa.org/APPPA/articles/legalintro.pdf>.

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