



**Food, Agriculture, and the Emergent  
Service Economy: Implications  
for the Northeast Region**

*by Nelson Bills*  
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# Food, Agriculture, and the Emergent Service Economy: Implications for the Northeast Region

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# Food, Agriculture, and the Emergent Service Economy: Challenges for the Northeast Region

## Introduction

Discussions of agricultural economic development and prospects for more farm and food vibrancy in the densely populated and urbanized Northeast often tend to be narrowly gauged with a focus limited to commodity production. Over time, this fixation on commodities, combined with the conventions followed by Federal data providers, has tended to mask some important changes in the fundamentals of the Region's farm, agricultural service, and food industries. Businesses operating in these sectors are adopting new business models and arrangements, some of which are blurring the traditional lines between farm/nonfarm and food/nonfood endeavors. Even when business arrangements, business structures, and marketing channels are well identified and understood, new or just-emerging products or services may test the imagery we all use to assign our own meaning to the terms 'farm' and 'food'.

Clearly, any useful construct of the food system must be anchored by commodity production on farms. Federal farm statistics count farms as places with production of commodities having a market value of \$1,000 or more per year. This definition, on the one hand, is highly inclusive because it extends to operations that generate very few net cash receipts for the farm operator in any given year. On the other hand, the definition is increasingly at odds with the facts on the ground in the Northeast, where farming and the working landscape are not always synonymous with commodity production.

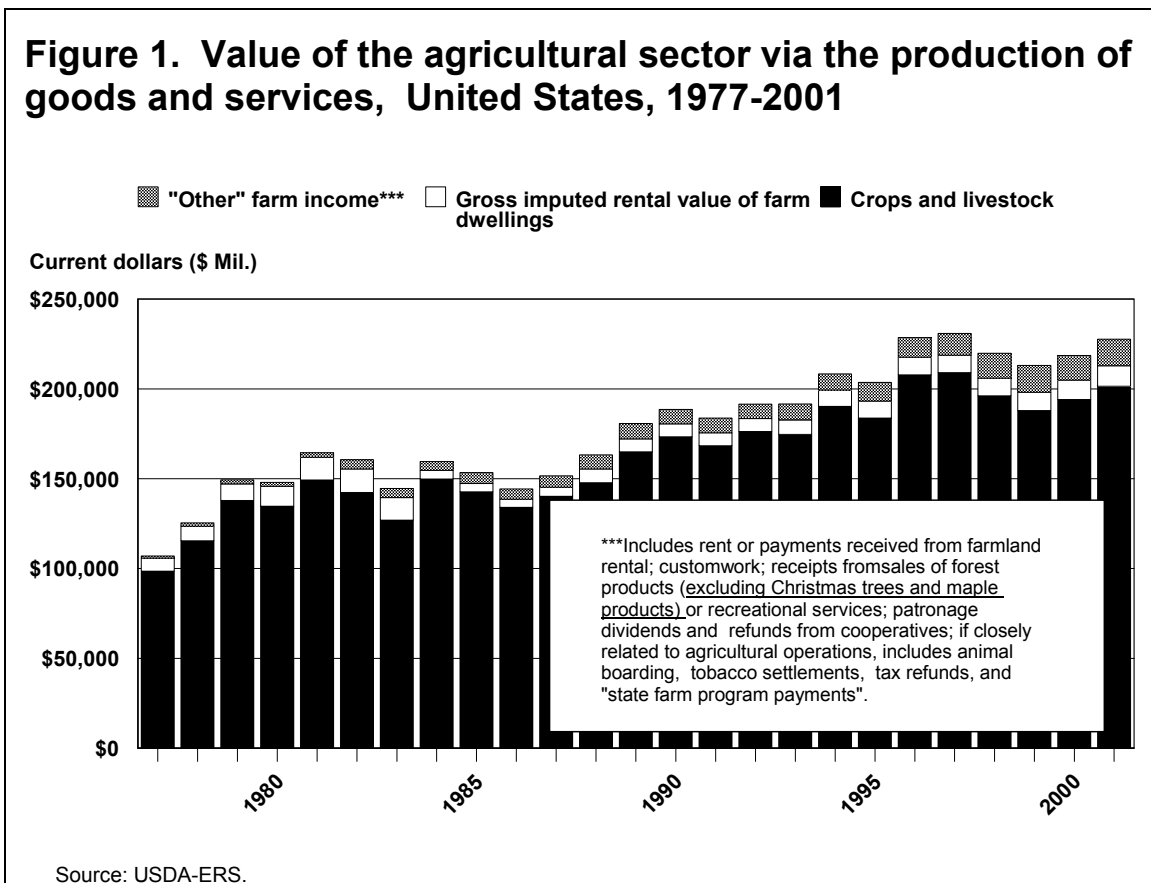
This white paper addresses some of these issues. The focus is on the trends in industries traditionally defined as agricultural services. The Region's equine sector is used to exemplify some of the confusion surrounding the production of non-commodity agricultural goods and services. It will be shown that, for the Northeast, ignoring services produced on equine farms produces a disconnect between our quantitative assessment of farm and food production on the one hand and patterns of land cover/land use on the other.

## Mixed Messages for Agricultural Services

Measurement of food and fiber production seems straightforward on conceptual grounds, but confusion over language and terms is distracting. A central concept is gross output, which must be clearly distinguished from the cash receipts from product sales realized by a farm or firm. There is a tendency to use the terms "output" and "cash receipts from product sales" interchangeably, but this is at odds with the data and sound accounting practices for several reasons. The term "output" is reserved for the most inclusive definition of income sources for a business. Although cash receipts from product sales constitute the largest component of total output or business income, several other sources are regularly tallied. These sources include "other business income" which, in the case of a farm business, is presently defined by the USDA to include Federal farm program payments, service income generated by custom work or leasing out farm equipment and services, and casual sales of some, but not all, forest products.

Recall that these estimates are confined to operations that meet Federal definitions of farm and land in farms. Federal estimates of total farm income also include substantial imputed income. Imputed income is income “in-kind” or income not measurable by looking at money transactions in any single year. The largest imputation in Federal farm statistics is the imputed value of owner occupied housing; the value of home consumption – crop or animal products commodities produced and consumed on the farm by the farm household - is also estimated by the USDA and, at times, finds its way into aggregate output estimates. These imputations, along with any estimates of annual inventory changes, can make a noticeable difference in the annual farm output estimate in absolute terms. However, when measured against the value of commodity output, service income and imputed value of household income on the farm constitutes a fairly trivial share of total estimated gross farm output (Figure 1).

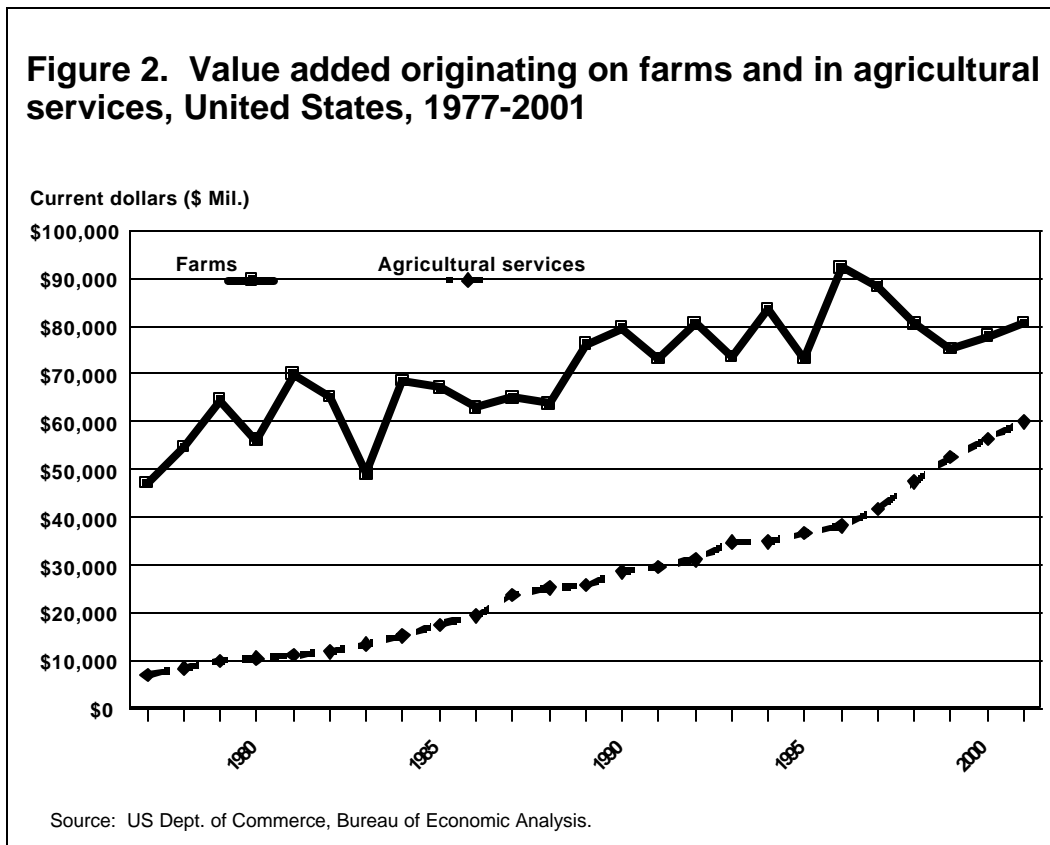
**Figure 1. Value of the agricultural sector via the production of goods and services, United States, 1977-2001**



A materially different picture emerges if one makes value added the reference point. For purposes here, value added for both commodity agriculture and in the broader categories of agricultural services needs to be considered<sup>1</sup>. The USDA now routinely

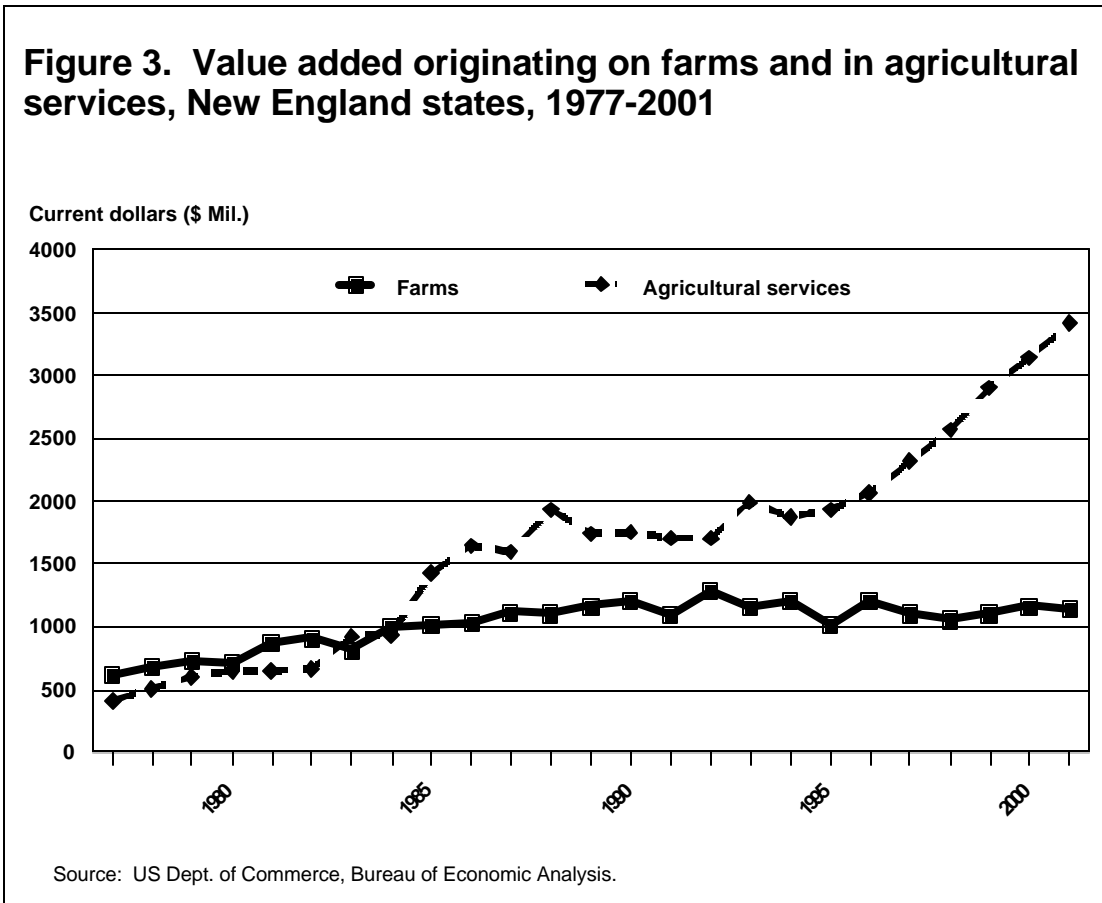
<sup>1</sup> The Federal definition of agricultural services is very comprehensive but probably excludes many lines of economic activity generally thought of in terms of “service” to agriculture: marketing and processing of raw farm commodities, their transport from the farm, financial and credit

publishes estimates of value added in commodity agriculture; but, as noted above, only a narrow band of service income - that deemed to be directly related to crop and livestock production - is reflected in USDA estimates. Generation of comprehensive estimates of value added, both for commodities and agricultural services, is the domain of the US Department of Commerce and its Bureau of Economic Analysis (BEA). Their estimates are shown in Figure 2. These data highlight dramatic increases in value added for agricultural services in the US, especially in the last decade. For every dollar of value added in commodity production, \$0.75 in value added originates in agricultural services.



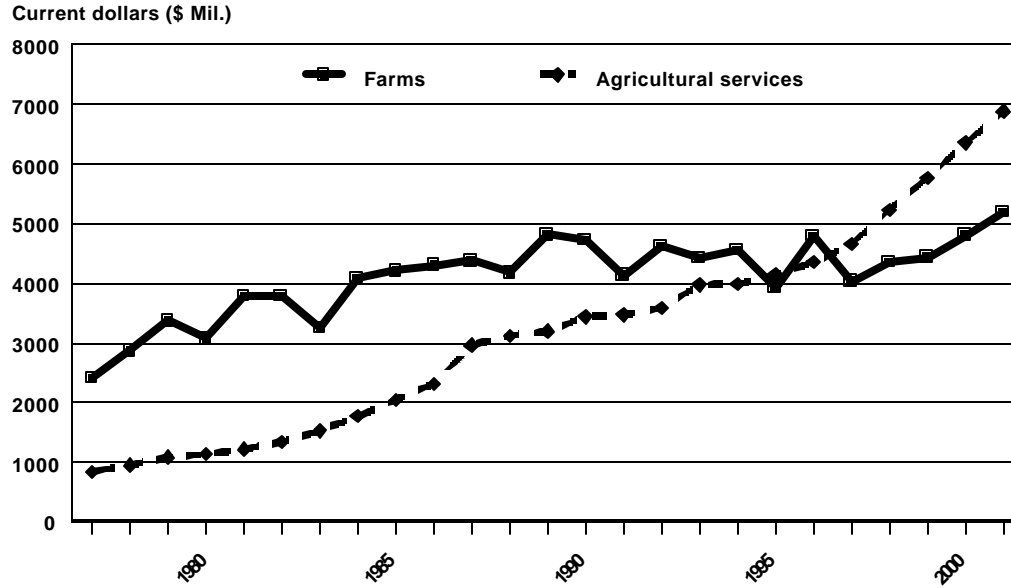
services, machinery repair, and so on. For purposes here, the more narrow definition of agricultural services is adopted in order to preserve access to published statistics. Some of these omissions can be dealt with in published data and some cannot. Many marketing and processing services fall into the category of food manufacturing and can be readily accounted for. These 'accounted-for services' largely fall on the output side. It is more difficult, and often impossible, to accurately segregate input services supplied directly to operators of agricultural businesses. Suppliers of these input services routinely service both farm and nonfarm customers, and there is no convenient way to segment and showcase the farm component of that service base. This challenge for accurate descriptions of farm input services is worsening over time as local farm service firms dwindle in number or diversify their businesses to attract nonfarm customers.

An even more striking picture emerges when attention turns to the Northeastern states (Figures 3 and 4). Value added originating in agricultural services in New England surpassed that generated in commodity agriculture in the early 1980s. Presently, in the aftermath of very steep increases since 1995, agricultural services account for approximately 2.5 times the amount of value added in production agriculture in the 6-state New England Region. Similar trends are evident in the Mideastern states, defined by BEA to include Delaware, New Jersey, New York, and Pennsylvania, with value added originating in services surpassing the amount originating in commodity agriculture in the early 1990s.



Some observers quickly attribute these contrasts to overzealous definitions of agricultural services, or definitions now dated because of shifts in business structure. This sentiment is clearly reflected in steps recently taken at the Federal level to implement the North American Industrial Classification System (NAICS). This system replaces standard industry classifications that have been in place without major modification for more than a third of a century (SIC codes). Now dated SIC definitions of agricultural services and categories of agricultural service that have been summarily removed from this category with the NAICS are shown in Figure 5. The impact on income and employment generated in the Region's farm and food sectors cannot be overstated. For example, consider before and after impressions of agricultural services

**Figure 4. Value added originating on farms and in agricultural services, Mideastern US, 1977-2001**



Source: US Dept. of Commerce, Bureau of Economic Analysis.

**Figure 5. Definition of agricultural services**

**Newly retired SIC**

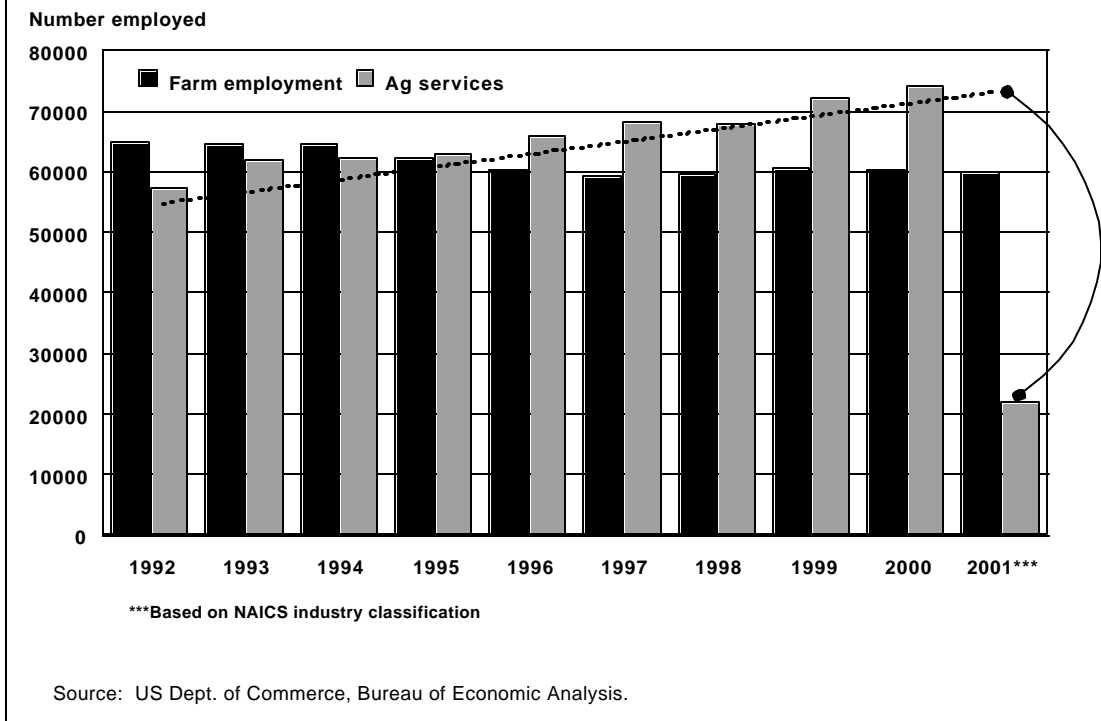
- Soil Preparation Services
- Crop Planting, Cultivating, and Protecting
- Crop Harvesting, Primarily by Machine
- Crop Preparation Services For Market, except Cotton Ginning
- Veterinary Services for Livestock
- Veterinary Services for Animal Specialties
- Livestock Services, Except Veterinary
- Animal Specialty Services, Except Veterinary
- Farm Management Services
- Landscape Counseling and Planning
- Lawn and Garden Services
- Ornamental Shrub and Tree Services
- Timber Tracts
- Forestry Services
- Finfish Marine Products
- Shellfish Marine Products
- Miscellaneous Marine Products
- Fish Hatcheries and Preserves
- Hunting and Trapping, and Game Propagation

**Eliminated from agricultural services by the newly implemented NAICS classification**

- Veterinary Services for Livestock (pt.)
- Veterinary Services for Animal Specialties (pt.)
- Custom Slaughtering
- Custom Grain Grinding
- Pet Care Services
- Horticulture Consulting
- Landscape Architectural Services
- Lawn and Garden Services
- Ornamental Shrub and Tree Services

Source: US Bureau of the Census.

**Figure 6. Ag services employment, New York, 1992-2001**



employment reported in New York (Figure 6). Definitions of agricultural services using the newly instituted NAICS system shift roughly 75 percent of the income and employment generated in New York businesses allied with crop and livestock production to food manufacturing (custom slaughtering of poultry and livestock) or, most often, to general categories of professional or personal services. Some of these changes seem sensible and some do not, at least in the context of Northeast agriculture. Regardless, the questions about just how agriculture, food, and agricultural services knit together in Northeast communities do not go away with new manipulations of the evidence on income and employment.

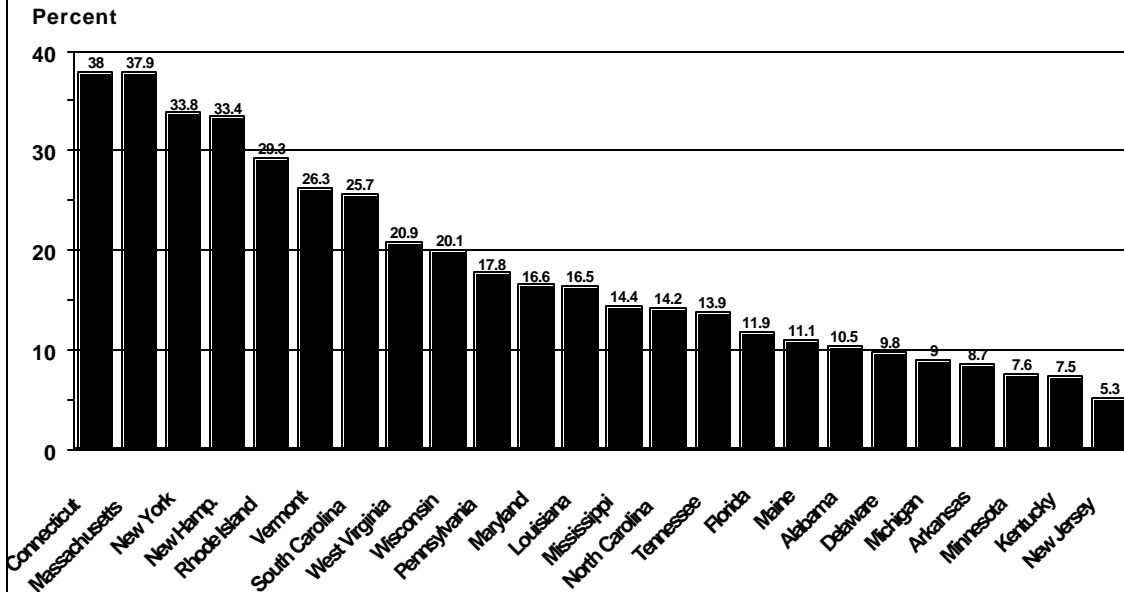
### **Agricultural Services and the Northeast Region's Working Landscape**

Regardless of shifts in industrial classification, one acute issue embedded in Federal farm statistics remains intact. Namely, business operations that feature equine meet an uncertain fate in Census of Agriculture data. This explains why some USDA state statisticians periodically do statewide equine surveys, as in New York (2000) and Maryland (2002).

In fact, these surveys and additional circumstantial evidence suggest that current data collection and reporting practices drive a wedge between published statistics and the facts on the ground for equine operations. Today, Federal statistics on land cover



**Figure 7. States with USDA-Census crop and pasture acreage at least 5% lower than USDA-NRI crop and pasture acreage, 1997**



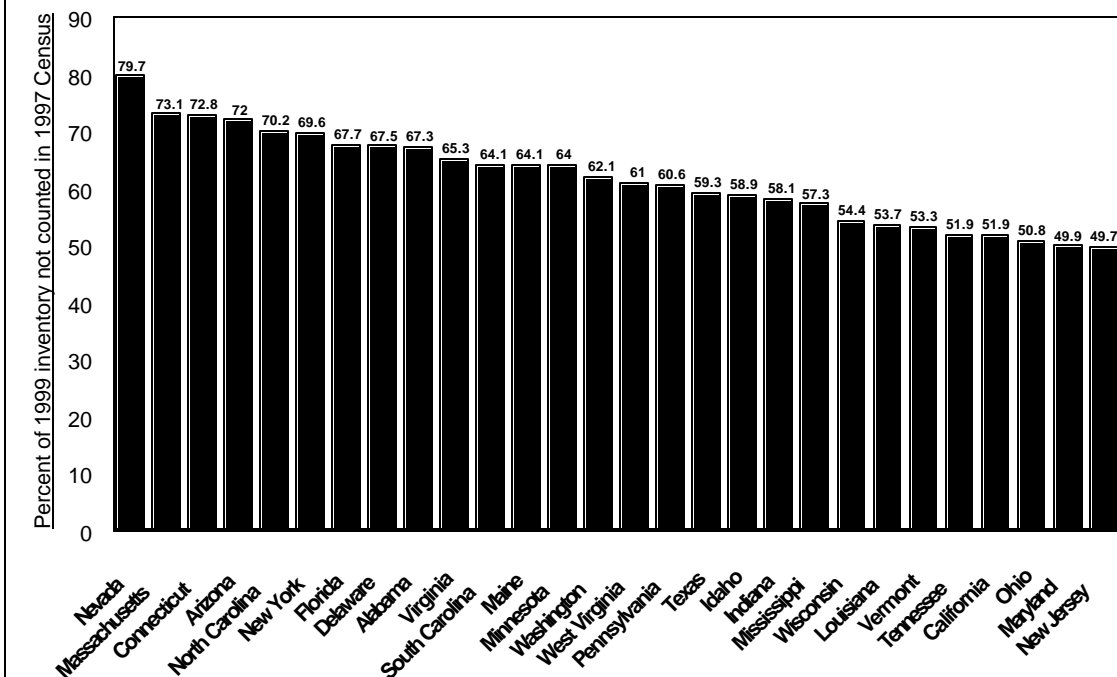
Source: Census of Agriculture and the National Resource Inventory.

diverge, sharply in some cases, from farmland uses reported in the 5-year Census of Agriculture. Figure 7 shows states with crop and pasture acreage reported in the Census at least 5 percent lower than the acreage reported in the USDA's 5-year National Resources Inventory (NRI). Substantial discrepancies mean that substantial crop and pasture acreages are falling outside the scope of the Census of Agriculture. Interestingly, all 13 Northeast states are represented among those states with substantial discrepancies in reported acreage<sup>2</sup>. Some of the differences are due to data gathering procedures, but the larger issue is differences in definition. The Census definition of farm does not turn on land cover, as with the NRI, but upon the market value of farm product sales.<sup>3</sup> The most important example is New York's equine industry.

<sup>2</sup> Beginning with the 2002 Census, USDA took steps to rectify undercounts of farms and, subsequently, underestimates the acreage of land in farms. In New York, for example, undercounts were previously evidenced in annual estimates of farms and land in farms made by the New York Agricultural Statistics Service. In 1997, the Service estimated farm numbers at 38,000 and land in farms at 7.8 million acres; that same year the Census pegged New York farm numbers at about 32,000 and land in farms at about 7.2 million acres. The 2002 Census reports about 7.6 million acres of farmland after taking the under coverage into account.

<sup>3</sup> The Census includes farms with market sales valued under \$1,000 during the Census year if the USDA judges these places to have the potential to meet the \$1,000 sales threshold; access to Federal farm payments are also considered when making that determination. While it is easy to think of some cases of unfulfilled production potential (catastrophic crop or livestock losses in the Census year, for example), such farms are reported in the 2002 Census in alarming numbers.

**Figure 8. States with 50% or larger discrepancy between a 1999 NASS equine inventory and equine counted in the 1997 Census of Agriculture**



Source: USDA-NASS

Many equine operations look like farms, take up considerable acreage, but are not organized to generate business revenue. Still other equine operations generate revenue, but not from farm commodity sales. Rather, the revenue comes from the provision of services (riding, training, boarding, and so on). Revenues from the provision of such services are out of bounds under prevailing farm definitions, and such equine operations are not regularly counted in the Census.

In contrast, the NRI makes an accounting of the landscape dimension of such equine operations in determinations of land cover. That is, NRI technicians inventory pastureland regardless of whether or not the owner meets the Census definition of a farm. This means that equine operations are a key part of the rural and farm landscape, but the majority of them are unrecognized in most farm statistics. The growing equine industry makes these data conventions increasingly anomalous and stilt the widely used and cited farm statistics for the Region.

Another comparison of conflicting USDA statistics provides even more circumstantial evidence that the landscape effects of undercounting equine farms are acute in the Northeast. In 1999, the USDA counted all equine in the US and reported results at the state level. Not unexpectedly, the results of this exhaustive inventory contrast very dramatically with counts of equine reported in the Census of Agriculture. Those

Nationally, over 550,000 farms - 26 percent of all farms - fell in this category. That percentage is even higher in the Northeast states.

comparisons are affected in Figure 8, which shows states with a 50% or larger discrepancy between the exhaustive 1999 equine inventory and equine counts reported in the 1997 Census of Agriculture. Again, the usual suspects are on hand; namely, all Northeast states are among the 28 states with outsized differentials in equine counts.

### **Discussion**

Conflicting and piecemeal evidence on the structure of the Northeast food and farm sector is causing more and more confusion in both academic and lay communities. Some Federal statistics can be readily used to marginalize the emergence of services as a component of the larger farm and food picture. Others offer tantalizing glimpses of changes in the industry that conform to on-the-ground observations and the anecdotal evidence on how farm and food pursuits really do thread through rural communities in the Northeast. In either case, this means that the educational community must redouble efforts to fashion incisive descriptions of the structural changes and interpret their meaning for state and local policymakers.

Information presented here strongly suggests that the Region's food agriculture system is not always well served by current Federal data conventions. Some sort of dialogue about data needs and data management could be a useful exchange for educators as well.

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