

# Minnesota Agricultural Economist

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## Are Foreign-Owned Businesses in Vietnam Really Sweatshops?

Paul Glewwe

Globalization is leading to increased economic interactions between the U.S. and almost every other country in the world. A growing percentage of the American economy is devoted to foreign trade, and many U.S. businesses are establishing offices, factories, and other economic ventures in other countries.

Most economists claim that globalization is, on the whole, a beneficial phenomenon—and one that should be encouraged—because globalization promotes efficiency in the world economy. In addition, some economists claim there are distributional benefits to globalization: for example, when U.S. companies (and companies from other high-income countries) open factories in countries with low wage rates, they create new jobs for poor people. In contrast, other economists argue that globalization has substantial negative effects on the employment and wages of workers in developed countries, and on working conditions and the environment in developing ones.

The purpose of this article is to provide some detailed data about the real impact of globalization on workers in low-income countries. In particular, I examine the status of workers in Vietnam, a country that has significantly increased its participation in the global economy during the past decade. I will pay special attention to the condition of workers employed by businesses that have foreign owners or are in joint ventures with foreign investors.

### Recent Revitalization in Vietnam

Most Americans' images of Vietnam still revolve around the Vietnam War, even though American military involve-

ment there ended 25 years ago. Much has changed since then. After North Vietnam gained control of the South in 1975, it set up a "socialist planning" approach to economic development. Under this system, the government owned almost all resources and did not rely on prices to determine production decisions. In rural areas, where the vast majority of Vietnamese still live, this

took the form of forcibly combining all private plots into large state farms, and combining villages into communes to operate these farms.

As a result of these changes, the performance of the Vietnamese economy was dismal in the late 1970s and early 1980s. Economic growth was at a standstill, although exact data are difficult to obtain because the accounting system used to measure economic performance differs substantially from market economies.

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## Filling the Feed Troughs of Minnesota

Douglas G. Tiffany and  
Jerry Fruin

Recent changes in livestock numbers, the types of livestock raised, and the size and location of livestock-rearing facilities throughout Minnesota and the U.S. are expected to pose severe challenges to a transportation network built for an earlier era. To help government and industry officials anticipate future transportation requirements, we calculated how much of each year's crop of Minnesota corn and soybeans is fed to livestock, and how much remains to be shipped to other states and countries.

We used published government statistics and typical figures for how much an animal consumes to first calculate the amount of corn and soybeans that were produced and consumed in each county. In all, we did this for 32 classes of livestock, ranging from broiler chickens to dairy cows, from brood sows to replacement ewes. For this article, however, we've lumped these 32 classes into just four groups of livestock—namely poultry, swine, beef cows, and dairy cows.

Livestock feed requirements can vary tremendously, depending on the animal's size and how long it is kept. For example, a broiler chicken, from the day it hatches until it is slaughtered 45 days later, eats about 5.7 lbs of corn and 2 lbs of soybean meal. In contrast, a dairy cow needs 5,824 lbs of corn and 1,700 lbs of soybean meal each year to sustain herself, give birth to a calf, and still produce 15,000 lbs of milk. Cattle also eat substantial amounts of forages such as hay, haylage, and corn silage, but these feeds, typically, are not transported very far. For this reason, we focus only on corn and soybeans here.

### Corn

Figure 3 shows the estimated consumption of corn for our four livestock groups, and map 1 shows how much corn is consumed by livestock for each county in Minnesota. Livestock in Martin County consume the most corn in the

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This heavy-handed, socially planned economic structure changed dramatically in the mid-1980s when Vietnam adopted market-oriented reforms. (This approach was pioneered by China in the early 1980s and led to China's rapid economic growth, which continues today.) The state farms in Vietnam were dismantled and plots of land divided among individual households. Households were granted long-term leases on this land and allowed to decide what kinds of crops to grow. Outside the agricultural sector, market transactions were legalized and almost all price controls were lifted. Household members were allowed to start businesses and to work for private employers. Trade barriers were greatly reduced and foreign direct investment was increasingly encouraged.

These economic reforms proved quite successful over the past decade. Per-capita economic growth, for example, increased at an average rate of 6–7% from 1990 to 1997. In addition, Vietnam was transformed from a rice importer to the world's second-largest rice exporter, and became the second-largest exporter of coffee.

This economic boom led to increased trade with the U.S., which officially opened diplomatic and economic relations with Vietnam in 1994. Exports from Vietnam to the U.S. increased from almost nothing in 1994 to \$543 million in 1999, and exports are expected to increase just as dramatically in the next few years because of the recent signing of a "normal trade relations" agreement that should be ratified by Congress in 2000 or 2001. This agreement should dramatically lower trade barriers between the two countries and remove many impediments to U.S. investment in Vietnam.

## **Recent Surveys Targeted Households**

What effect did globalization have on Vietnamese workers? Although many low-income countries do not have good household-level data, Vietnam is fortunate because two high-quality surveys were conducted in the 1990s: the 1992–93 and 1997–98 Vietnam Living-Standards Survey (VLSS). Both surveys produced very reliable data and were financed by the United Nations Development Program and the Swedish

International Development Agency, with technical assistance from the World Bank. For the sake of simplicity, I will refer to these as the 1993 and 1998 household surveys.

The VLSS data confirm that Vietnam is still a very poor country (table 1). In 1998, per-capita consumption expenditures were only \$205, and the average caloric intake per day amounted to only 2,087 calories—barely enough to maintain adequate nutrition. In addition, 37 percent of the population still lives in poverty. (I show consumption expenditures in table 1 because income is difficult to quantify in a country like Vietnam, where nearly 80 percent of the working population is self-employed.)

## **Rice Is Cheap and a Major Component of the Diet**

In 1998, the average Vietnamese spent only \$205 per year on food (table 1). How did he or she survive on such a low food budget? The answer comes in two parts: lots of rice consumption and low rice prices. VLSS data show that in 1998 the average Vietnamese consumed 283 kilos of food, of which 170 kilos—or 60 percent—was rice. Moreover, when rice costs only 17 cents per kilo (8 cents per pound), the average person in Vietnam spends only \$29 for a year's supply. So the average Vietnamese spends 86 percent of his or her food budget on other items such as fruits, vegetables, and a little meat.

## **Most Vietnamese Are Self-Employed Farmers**

The 1998 household survey collected responses from 15,625 people who had worked in the seven days preceding the interview. As shown in table 2, the largest occupation category is self-employed farmers, who make up 59 percent of the work force. The remaining 41 percent is evenly divided between people working in non-agricultural self-employment (20 percent) and wage and salary workers (21 percent).

Wage and salary workers are further divided according to where they work (table 2). Overall, about 8 percent of the working population is employed by the government (either directly or by a state-owned enterprise), 8 percent works for wholly Vietnamese-owned enterprises (including working for small household businesses), about 1 percent works for

joint ventures, and 0.4 percent works for foreign-owned businesses (FOBs).

## **Most Foreign Investments Are in Clothing and Shoe Businesses**

Much of the debate about the negative effects of globalization on workers in low-income countries has focused on workers in factories that make clothing and shoes for export to the U.S. and other wealthy countries. Table 3 shows that about half of the Vietnamese workers in FOBs are employed by either textile or leather (mostly shoe) firms. In contrast, only 23 percent of workers in joint ventures are employed in such firms. Two-thirds of workers in FOBs are women (figure 1) and, coincidentally, nearly two-thirds are in their twenties (figure 2). Joint ventures employ more men than women and fewer individuals in their twenties. In neither FOBs or joint ventures are many of the workers aged 14 or younger, so there does not appear to be much reason to worry about the use of child labor in Vietnam—at least among workers employed in foreign firms.

## **Foreign-Firm Workers Spend Twice the Average**

There are several ways to compare the status of Vietnamese who work in FOBs with those in other employment. One is to examine the consumption expenditure levels of the households to which these workers belong. Presumably, workers exploited in a sweatshop would be less able to support their families and, thus, would be relatively poor. Evidence against this is shown in table 4. The first line presents per-capita consumption expenditures for all households in Vietnam, while the remaining lines focus on people who work in FOBs or joint ventures. In contrast to what some critics of globalization argue, the per-capita consumption expenditures for the average worker in FOBs are twice as high as those of the average Vietnamese household, although the difference is smaller for those who work in textile or leather firms. Workers in joint ventures are also better off, but the difference here is not as large, with per-capita consumption about 25% higher than that of an average Vietnamese household.

Another way to examine the status of workers in FOBs is to look directly at

**Table 1. Consumption expenditures, calories, and poverty in Vietnam**

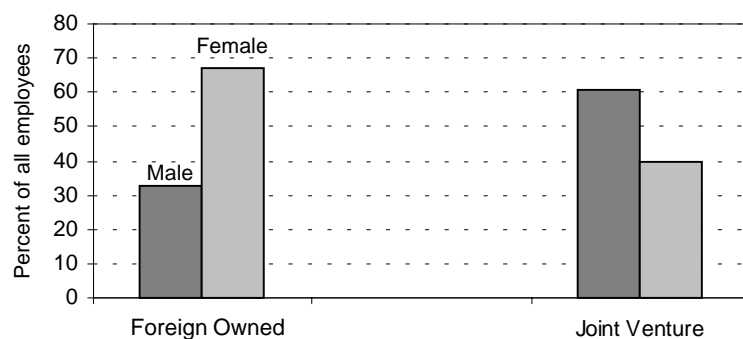
	1993	1998
Per-capita consumption expenditures per year (dollar equivalent)	125	205
Calories per day	2,058	2,087
Poverty rate (percent)	58.2	37.4

**Table 2. Distribution of employed people by occupational category in Vietnam in 1998**

	Percent of all responses	Wage (US dollar equivalent)
Farmers (self-employed)	58.7	-
Self-employed non-agricultural work	20.4	-
Wage or salary workers—	20.9	0.23
—who are employed by		
government	4.2	0.24
state enterprise	3.4	0.27
small household enterprise	6.0	0.21
FOB	0.4	0.42
joint venture	1.1	0.19
other	3.6	0.19

**Table 3. Industry sector of workers employed by joint ventures and FOBs in Vietnam in 1998**

	Percent of all workers	
	Joint ventures	FOBs
Construction	20.4	-
Agriculture	7.0	-
Textiles	9.9	17.2
Leather products	12.8	31.0
Electronic products	2.9	15.5
Other production	22.1	10.3
Commerce	15.7	12.1

**Figure 1. Percentage of male and female workers in joint ventures and FOBs in Vietnam in 1998**

wages. As shown in table 2, all Vietnamese wage earners are paid very low wages in comparison to the U.S. For example, the average wage earner in Vietnam earns 23 cents per hour, but workers in FOBs fare better, making an average of 42 cents per hour. Those who work in foreign-owned textile and leather factories make less, about 26 to 28 cents per hour. Workers in joint ventures do a little better than the average worker, making an average of 26 cents per hour, but not as much as workers in foreign enterprises.

A third way to look at this question is in terms of whether those who work in FOBs are officially declared poor or not. The Vietnamese government uses two poverty definitions. “Very poor” implies that a household’s total consumption expenditures are not enough to purchase a minimal basket of food items (providing 2,100 calories per day for each household member), while “poor” implies that one cannot purchase a basket of goods that includes all of those food items—plus an allowance for non-food purchases.

In Vietnam as a whole in 1998, 15 percent of the population was classified as “very poor” and 37 percent as “poor” (table 5). For those people working in joint ventures, the poverty rates are much lower, namely 6 percent and 18 percent, respectively. People working in FOBs showed lower rates still: none was classified as very poor, and only about 8 percent was termed poor.

## Economic Trends from 1993 to 1998

It is also interesting to look at changes in economic status over time. Many of the households that participated in the 1993 survey also participated in the 1998 survey—so we can track how fortunes changed for individuals who obtained work in joint ventures and FOBs during the 1990s. These data are shown in table 6. As already mentioned, per-capita consumption expenditures for all Vietnamese increased by 41% in real terms from 1993 to 1998. For workers employed by joint ventures, however, expenditures increased by 53%. Finally, for individuals who obtained work in FOBs, the increase was even higher, about 70%. Overall, when examined in

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several ways, it appears that individuals working in FOBs or joint ventures are better off than the average Vietnamese worker.

## Conclusions

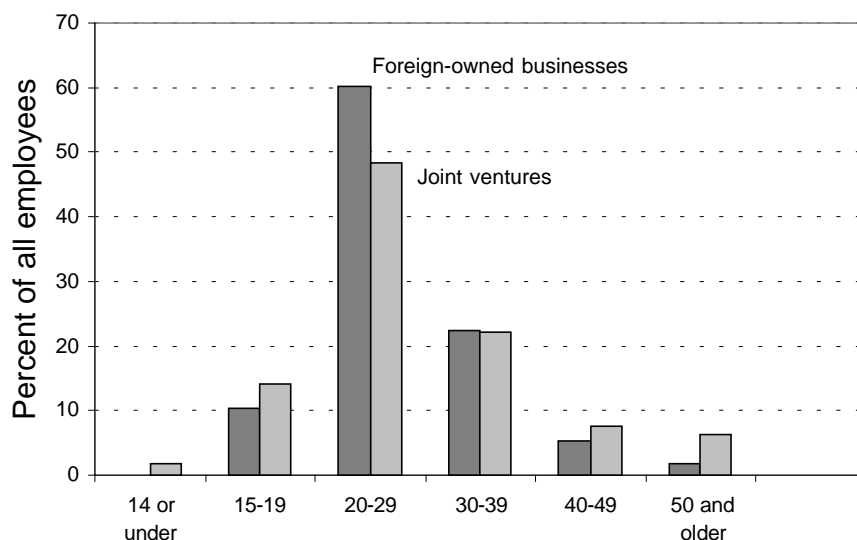
The VLSS data appear to contradict the general view that FOBs in poor countries such as Vietnam are nothing but sweatshops. Overall, the evidence shows that these workers—especially those who work for FOBs—are much better off than the average Vietnamese worker. While the wages paid by joint ventures and FOBs are but a small fraction of the wages paid for comparable work in the U.S. and other wealthy countries, these workers are still better off than they would be in almost any other job available in Vietnam.

In my opinion, these data confirm what most economists would expect. Foreign investment in Vietnam provides better jobs for Vietnamese workers—jobs that would not exist in the absence of that investment. There is simply no possibility that wages could be raised to one or two dollars per hour in Vietnam, because such wages would make foreign investment unprofitable, and because they would be so high by Vietnamese standards that virtually everyone would quit their current jobs. While this might sound like a good thing, it could lead to economic chaos—something the Vietnamese government would never permit.

Globalization has, in my view, probably resulted in more gains than losses for workers in very poor countries like Vietnam, even though it has at the same time probably hurt some workers in developed countries—especially workers in low-skill factory jobs. And there remain some very real issues of the environmental impacts of globalization, which I didn't have room to discuss here. Once it becomes clearer what all of these impacts are—something that will require similar data-collection efforts in other countries—we can begin to make useful decisions on how to deal with the real effects of economic globalization.

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**Figure 2. Age distribution of workers in foreign firms: Vietnam, 1998**



**Table 4. Relative status of workers: Vietnam, 1998**

	Per-capita expenditures per year (dollar equivalents)
General population	205
People working in FOBs	420
People working in joint ventures	251
Workers in textile FOBs	303
Workers in leather-goods FOBs	371

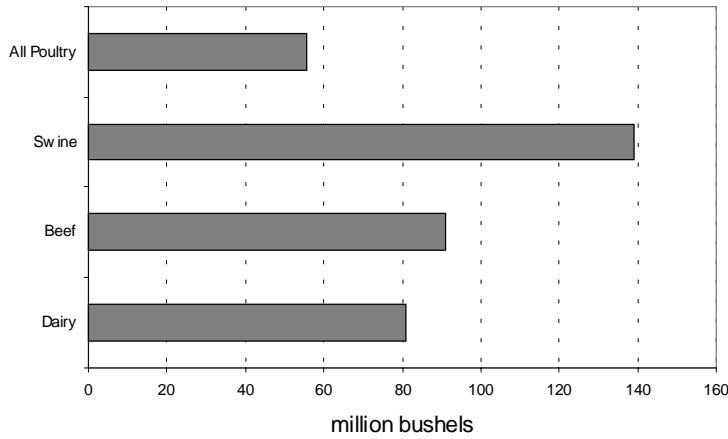
**Table 5. Poverty status: Vietnam, 1998**

	Incidence of poverty (percent)	
	Very poor	Poor
General population	15.0	37.4
People working for joint ventures or FOBs	6.1	18.3
People working for joint ventures	8.0	21.4
People working for FOBs	0.0	8.4
People working for textile FOBs	0.0	17.3
People working for leather-goods FOBs	0.0	8.6

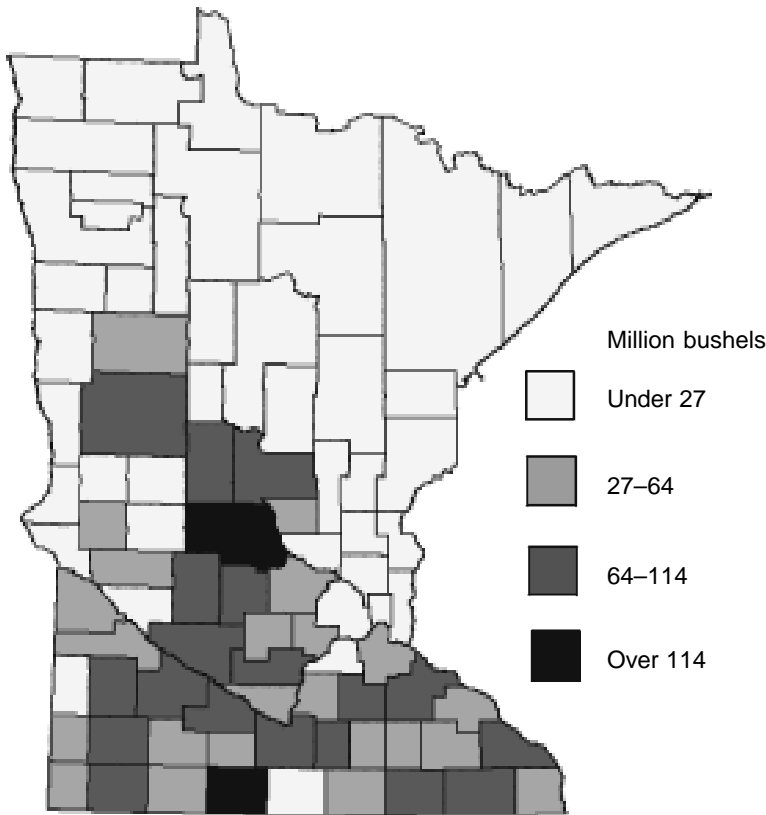
**Table 6. Change in economic status for workers: Vietnam, 1998**

	Mean per-capita expenditures (dollar equivalents per year)		Inflation adjusted- change (%)
	1993	1998	
Entire population	125	205	+41.1
Joint ventures and FOBs	143	261	+57.5
Joint ventures	131	232	+52.8
FOBs	189	372	+69.7

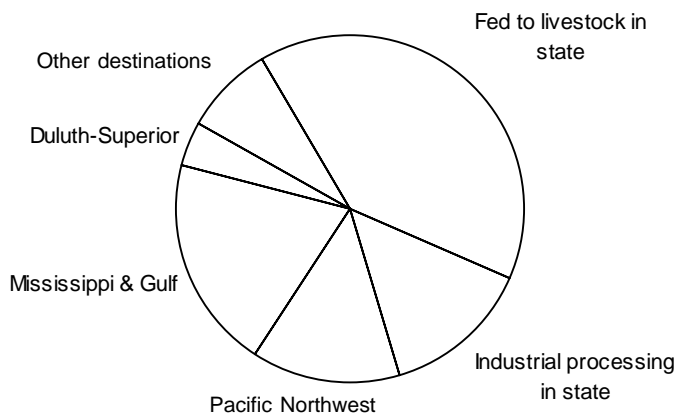
**Figure 3. Annual corn consumption by Minnesota livestock**



**Map 1. Annual corn consumption by Minnesota livestock**



**Figure 4. Destinations of the 1999 Minnesota corn crop**



(Filling from page 1)

state, followed by (geographically larger) Stearns County. Farmers in both counties feed over 20 million bushels of corn each year to their livestock. In contrast, livestock in 22 counties (primarily in the northern half of the state and in the Minneapolis/St. Paul area) consume less than 1 million bushels per county each year.

Map 2 shows the amounts of corn remaining after local feed requirements are met. Sometimes, a county's livestock require so much corn that local production cannot meet local needs, and so farmers must import corn. Counties in the first group have an "exportable surplus," while counties in the second have a "feed deficit."

Twenty-three northern counties plus Ramsey County have feed deficits. The largest deficit occurs in Becker County, which imports 2.4 million bushels of corn for its livestock. Other counties with high corn imports include Roseau (2.1 million bushels), Todd (2.1), Red Lake (2.0), and Morrison Counties (1.9). Counties that use the smallest percentage of their corn production to feed livestock—that is, counties that have the highest percentage of exportable surplus—are Traverse (6 percent), Wilkin (9 percent), Faribault (9 percent), and Chippewa Counties (9 percent).

The map suggests that a significant portion of the Minnesota corn crop is available for further processing or export from the state. Figure 4 shows our estimate of these movements for the 990 million bushel corn crop that Minnesota produced in 1999. Consumption by Minnesota livestock remains the dominant value-added activity in the use of corn, but industrial facilities (principally makers of ethanol and sweeteners) used 133 million bushels, or 14 percent of the crop. In addition, 144 million bushels were transported by rail to ports in the Pacific Northwest for export to Pacific-rim countries, and 200 million bushels were shipped by barge to ports on the Gulf of Mexico. Only 40 million bushels of corn were exported by ship from the ports of Duluth and Superior.

### Soybeans

Soybeans are always processed before being used, usually at large

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(Filling from page 5)

processing plants where oil and protein meal are produced. As a general rule, one 60-lb bushel of soybeans yields 11 lbs of soy oil and 47.5 lbs of soybean meal. The soybean meal is crushed, formulated into feed, and transported to livestock feeding areas.

Figure 5 shows our estimates of the quantities of soybean meal consumed by each of our four livestock categories. We calculate that Minnesota livestock consume the soybean meal produced from 87 million bushels of soybeans, or 34 percent of the 1999 Minnesota crop. Of the soybean meal eaten by poultry, turkeys eat 78 percent, followed by laying chickens (14 percent) and broiler chickens (8 percent).

Map 3 shows how much soybean meal is consumed by livestock for each county in Minnesota. In 45 counties, livestock consume less than 20,000 tons of soybean meal each year. At the other extreme, livestock in four counties (Stearns, Martin, Kandiyohi, and Morrison) consume anywhere from 80,000 to 156,000 tons of soybean meal, which is equivalent to 3.8 to 6.5 million bushels of soybeans. (Martin is the number one hog-producing county in the state, while Kandiyohi, Stearns, and Morrison are major poultry producers. Stearns and Morrison are also major dairy counties.)

Figure 6 shows the destinations for the 283 million bushels of soybeans produced in Minnesota in 1999. Approximately 100 million bushels were turned into oil and meal—and most of the meal was fed to livestock in Minnesota (for county totals, see map 3). In addition, 45 million bushels were exported by ship from Duluth-Superior, 65 million bushels were transported by barge down the Mississippi River for export from ports on the Gulf of Mexico, and over 13 million bushels were shipped by rail to the Pacific Northwest for export. The remaining 60 or so million bushels of soybeans went primarily by rail to processors in the U.S. and Mexico.

### Grain and Oilseed Transportation Demand

Work is under way to further refine data on grain and oilseed movements by truck, unit train, and river barge. The

Map 2. Corn feeding deficit/surplus

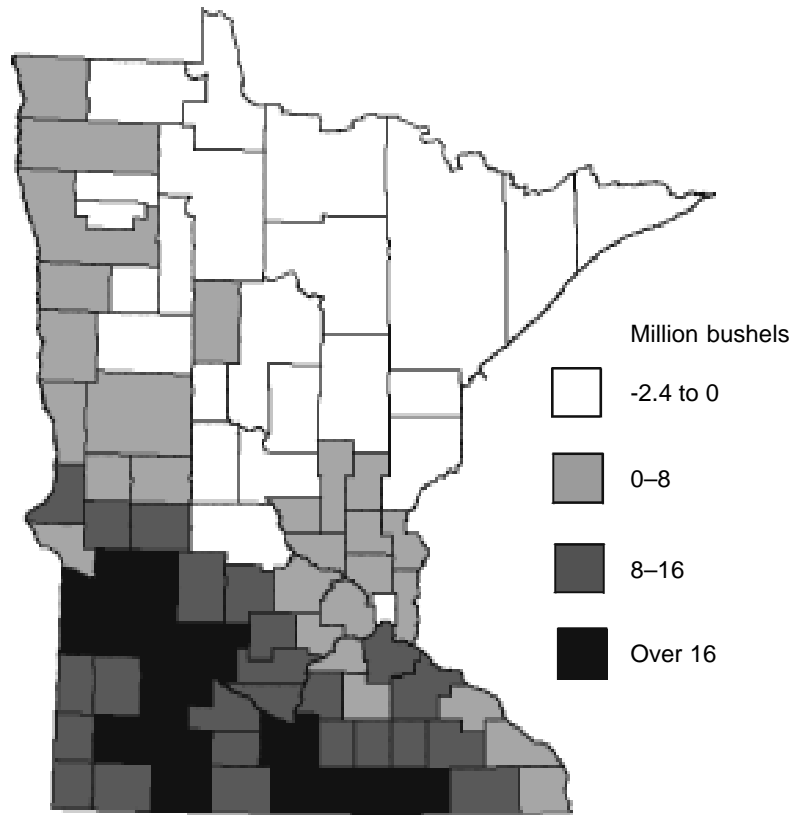
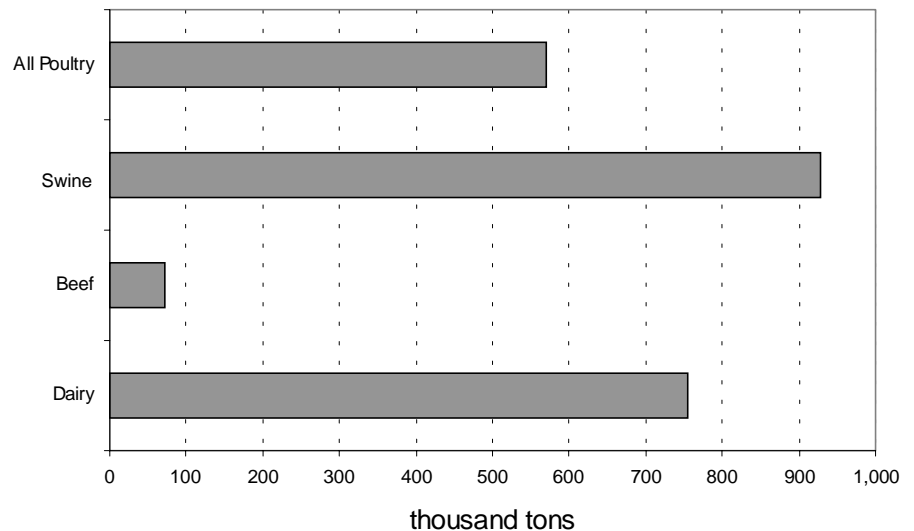


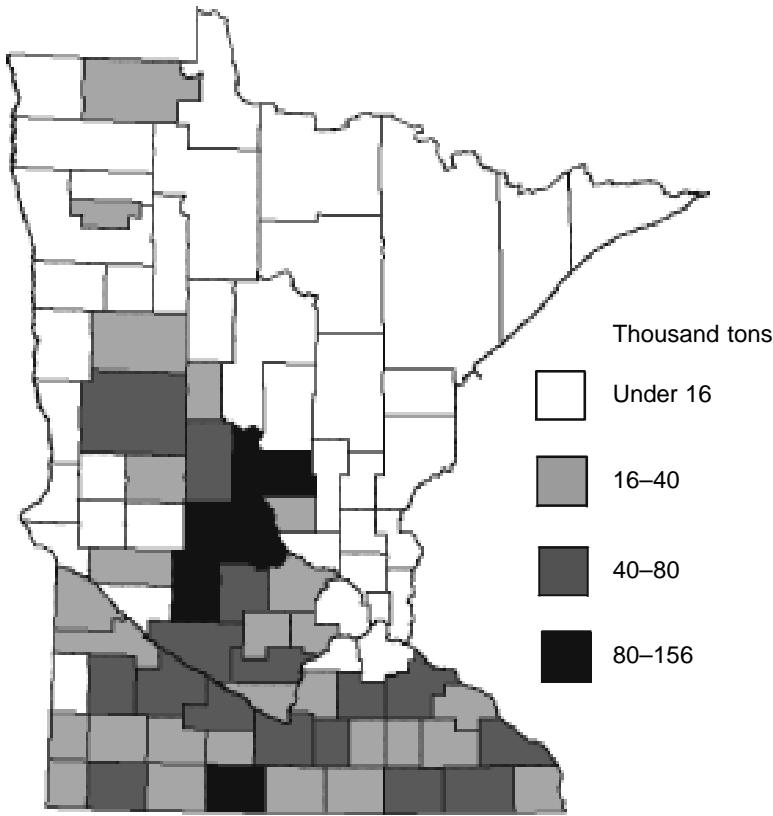
Figure 5. Annual soybean meal consumption by Minnesota livestock



combined volume of exportable corn surpluses and of soybean production (all soybeans require at least some non-local shipping) determine the amount of grain and oilseeds that need to be transported to processing plants and/or through export channels. We don't have room to include it here, but a map of the state showing the "density" of shipping demand (measured in tons of grains and

oilseeds per square mile of farms) can help transportation planners identify areas of the state where roads and railroads can be expected to receive the heaviest freight volumes. This map would show the highest demand coming from a band of counties stretching diagonally from Freeborn and Faribault at its southeast corner to Big Stone at its northwest corner. In general, the high

**Map 3. Annual soybean meal consumption by Minnesota livestock**

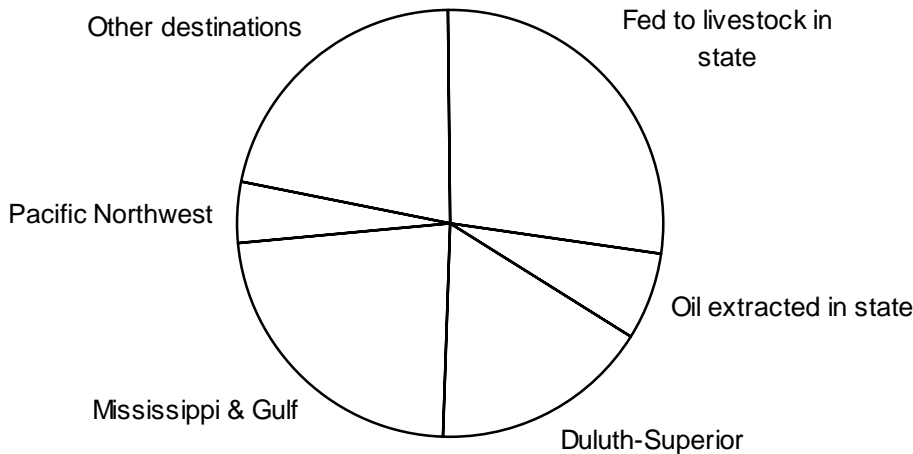


demand areas include those counties with the highest exportable corn surplus shown in map 2, and they do not include those counties with high soybean meal consumption shown in map 3.

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**Figure 6. Destinations of the 1999 Minnesota soybean crop**



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