## Spatial Patterns in the Agriculture's Contribution to The Wisconsin Economy

Parallel to the heterogeneity of agricultural products grown and processed, the spatial distribution of agricultural across Wisconsin is noteworthy. Consider, for example, the contribution of agriculture to industrial sales across the nine National Agricultural Statistic Service (NASS) reporting districts. All of agriculture's (both on-farm and food processing) contribution to industrial sales is the largest in the South Western district accounting for 27.9% of total activity

and the smallest, 7.2%, in the South Eastern district (Figure 1, Map 1A). This is not particularly unexpected and is consistent with prior years of analysis.

Also of note is the patterns between on-farm and food processing contributions (Figure 1, Maps 1B and 1C). For each of the nine regions the contribution of food processing is consistently larger





Figure 1: Contribution of Agriculture to the Wisconsin Economy,



than on-farm contributions. While this follows historical patterns, it is also a reflection of the recent growth in the food processing sector and current fiscal difficulties facing farmers. Considered South Eastern Wisconsin, which is dominated by the Milwaukee Metropolitan Area, there remains on-farm activity but the role of agriculture stands out from food processing. Indeed, when looking at the absolute contributions, food processing contributes \$15.0 billion to industrial sales in South Eastern Wisconsin, which is second only to East Central Wisconsin where food processing contributed \$19.9 billion to industrial sales (Figure 2).



CENTER FOR COMMUNITY ECONOMIC DEVELOPMENT DEPARTMENT OF AGRICULTURAL AND APPLIED ECONOMICS





Map 1C: All Agriculture Contribution to Industrial Sales







This variation across Wisconsin, coupled with the significant heterogeneity of agricultural products, has two important implications. First, agriculture is not just a "rural industry" as a significant proportion of food processing activity takes place in urban centers. While it is true that much of the on-farm activity takes place in more rural settings to equate Wisconsin agriculture with rural Wisconsin is too narrow of a view. Because many of these urban located food processors are dependent on Wisconsin farmers for input materials, the health of farmers directly impacts many urban areas.

Second, the vast heterogeneity of Wisconsin agriculture requires subtleties in policies. Policies that may be beneficial to vegetable farmers in the Central Sands part of Wisconsin may not be appropriate for dairy farmers. Alternatively, policies that help larger cheese processors by be detrimental to smaller artesian cheese producers.

In the end, the diversity of Wisconsin agriculture, across the rural-urban spectrum, types of farm activities and different scales of food processing operations, requires

that policies aimed at promoting the profitability of agriculture must take a larger systems approach. The simplest means to a systems approach is to ensure that all actors within Wisconsin agriculture have an opportunity to study and discuss individual policy options.

For this analysis we use an input-output model of the Wisconsin economy. One can think of this model as a "spreadsheet of the economy" where buyers (demand) are across the columns of the spreadsheet and sellers (supply) are down the rows. Any individual cell of the spreadsheet captures the amount of money flowing from the seller to the buyer. Because supply must equal demand we can trace changes in one part of the economy (an interaction between supply and demand) throughout the whole of the economy. These changes are often referred to as the multiplier effects.

Steven Deller, Department of Agricultural and Applied Economics, and the Center for Community Economic Development, University of Wisconsin—Madison. Support for this work was provided by the Division of Extension and the Economic Development Administration's University Center, University of Wisconsin-Madison, and the Dairy Farmers of Wisconsin.