

Composting Hoophouse Manure is it worth it?

PFI cooperators have completed trials in a Leopold Center-supported project to examine composting of swine hoophouse manure. This "manure" is almost as much bedding as it is manure. Feeder pigs eat about three pounds of feed for every pound of gain, but hoop producers also pile in about one pound of bedding for each pound gained.

The bedding is bulky, and it can tie up nitrogen in the soil as it breaks down. So the project has tried to determine if composting can make it more crop-friendly. Working with the cooperators have been ISU scientists Tom Richard and Matt Leibman and USDA-ARS scientist Cindy Cambardella.

You've heard this before: "analysis is continuing." But what can be said in a preliminary way from this project? [Table 2, click to view](#), summarizes comparisons from PFI hoophouse trials over four years. (In some, additional nitrogen fertilizer was applied to the plots.) Looking just at the averages, you would have to conclude that both manure and compost are good for crops. And it would be difficult to say whether manure or compost is more effective.



This isn't a hoophouse, but they are cute pigs.

This is good information because we know uncomposted bedding can compete with crops for nitrogen as it decomposes in the soil. Corn stalk analyses in some of the trials have suggested that although late spring N status was good, the crop might have been short of nitrogen by the end of the season. But in these trials the amounts of manure or compost applied and/or the degree of N tie-up were not serious enough to decrease yields.

The economics of manure is one question; that of compost is another altogether. Composting reduces bulk, which cuts application costs, but some nutrients are lost in the process, and the labor involved is not trivial. To provide basic information in this arena, cooperators in the project have been logging their times as they clean out hoops, haul manure, turn compost, and apply material to the field. As [Table 3, click to view](#), reveals, these times vary with the kind of equipment, distances traveled, and application rates. Cooperators and project scientists continue to work toward general values for equipment and labor that can be used to project costs in different scenarios. That will give hoophouse producers a better idea of the pros and cons of composting.