LINKING FARMS: A FINANCIAL SOLUTION

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In the process of linking dairy farms with cash grain farms to utilize the benefits of manure, questions arose on how to determine if manure should be exchanged between farms. Is it feasible to ship manure from farm-to-farm? How far can we ship manure and still have some economic value left? Can we charge for manure as a commodity? If we ship the manure this far who will pay for the hauling?

The goals of my research were to determine if, and how far, it is feasible to haul manure and to develop a working model that business consultants and farmers can use to judge how far manure can be hauled and what it is worth to each party involved. My hypothesis was that it is feasible to haul manure to the neighboring farms with an economic benefit to both parties. The distance that the manure could be hauled will vary from operation to operation.

With the help of my advisors, peers, extension agents, and individuals in the industry, I have developed an excel sheet that determines the break-even distance for hauling manure. To give the sheet a more user friendly feel, a whole enterprise budget is the framework of the sheet. The distance is based off of manure application rate, nutrient value, fertilizer price, diesel price, and hauling charges. Being that the manure is an input that is replacing fertilizer in the budget, changes in the rest of the budget only effect the bottom line not the break-even distance. For distances less than the break-even, the remainder value can be used between the two farms as their leverage. For distances greater than the break-even, the negative balance is what the dairy farm would have to subsidize to the grain farmer to take the manure.

The scenario that we set up is one where the dairy farm has reached a limit on hauling manure on the property near the farm. Under this implication, the farm must ship their manure greater than one mile so the hauling fees that are incurred for the first mile are being charged to the dairy farm. I have formed a scenario budget using average dairy slurry nutrient values and current fertilizer prices from the Marshfield, WI testing labs, hauling information from the Wisconsin Waste Haulers Association, and an enterprise budget for a corn grain farmer derived from five years of historical data from the PEPS contest. The scenario budget shows that average dairy manure can be hauled a distance of over 5 miles and still has economic value.

Overall, the model shows that it is feasible to ship manure to the neighboring farms, but the distance that it can be shipped depends mainly on the commercial fertilizer price and the value of the manure being applied.

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