

Precision Agriculture Implications for Farm Management: Farmland Leasing Example

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http://www.agmanager.info/crops/prodecon/precision/Griffin_PreAgImplications.pdf

In the US, most farmland is owned by the farmer. However, substantial percentages are owned by someone other than the farmer. In the most recent USDA Census of Agriculture, 62% of farmland was owned by the farmer-operator. The percentage of rented farmland has ranged from 35% in the 1960's to nearly 43% in 1992. Rented farmland proportions are higher in the Delta, Corn Belt, and Plains states than the rest of the country (USDA Census of Agriculture 2012). Therefore, a primary focus of farm management has been on acquiring and maintaining control of farmland; and an important topic that precision agricultural technologies can be a useful tool.

During my precision agriculture presentations I have been discussing the value of data. In particular, the prevalence of farmers and service providers creating printed maps from yield, soil, and other data as the ultimate use of data was discussed. The value of these printed maps was debated. Upon stating that unused data has no value, I mentioned that printed yield maps usually end up with similarly very low values, but with a notable exception for farm management. One exception is that some landowners appreciate printed yield maps, especially when presented in a format such as framed like a picture suitable for hanging or as kitchen table placemats. Several participants at the meeting paused to make written notes, and several hallway conversations followed. Given the interest, it seemed worthy of a short write-up to share this idea.

Even though not all landowners would find value in receiving printed yield maps at the end of the year, many would cherish this and it ultimately could make the difference for a farmer to continue farming that tract. The overall farm management principle here is that farmers who get to know what makes their landowners happy can position themselves better to maintain and enhance that relationship (assuming some level of utility maximizing behavior). Some landowners view their investment just as that, an investment, and value the revenue stream only (i.e. profit maximizing). Others would enjoy telling their friends about their asset, the history, and current events expressed through a printed yield map, either framed or imprinted on a coffee mug or perhaps some other creative expression of it.

At a time when cutting-edge agricultural discussions include 'big data', telematics, and autonomous decision-making processes, there are still many opportunities to use precision agricultural technologies to improve basic farm management. In particular with the current economic farm environment of potentially increased financial stress, existing technology on the farm may aid in ways not previously considered. Other examples of using precision agriculture technology for farm management exist that will be discussed at a later time.

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