

1. BIG FARMA

Advances in agricultural technologies have enabled tractors, combines, sprayers, and other farm equipment to gather data about soil and weather conditions, seed viability, topography, nutrients, disease history, row distance, planting depth, and other factors that influence crop yields. Individual farmers use this information about their fields to make decisions about what and when to plant, depth and spacing, and other farming practices.

In addition to farmers, giant agricultural corporations like Monsanto and DuPont have a vested interest in increasing agricultural yields, and they encourage farmers to subscribe to “prescriptive planting” technology. In prescriptive planting, the farm-equipment sensors send data not just to individual farmers, but to these corporations as well. The corporations compile the data (for a fee) and send the aggregated information to the farmers and their machines, prescribing what seeds to plant, when, at what depth, and how far apart to space the rows to produce the highest yields.

Supporters of prescriptive planting are enthusiastic about aggregated agricultural data, which they claim has the potential to greatly improve farming. For example, even within a small geographic area, soil type and rainfall can vary significantly. Seed companies can customize seed selection for individual fields based on particular soil conditions and specific seed germplasm.

Advocates also applaud technological advances that may avert a global food crisis. Growth in world population, coupled with decreasing availability of water and arable land, indicate that unless farm production increases significantly, the world will face severe food shortages in the near future.

Other observers are skeptical, however. Although the corporations assure farmers that data about their crops will be protected, some farmers fear that the information could be used to manipulate markets or gouge seed prices. There are also unanswered questions about who will own the crop data generated through prescriptive planting. There are also concerns about potential conflicts of interest, as seed companies have a vested interest in selling as much seed as possible, which might not be in farmers’ best interests.

It takes companies years to develop new seed products and comply with regulatory review, but they can develop and sell data services very quickly. Proponents of prescriptive planting expect the practice to be very good business for seed companies.