INTO GEAR

The Latest in Land Leveling

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The AutoLevel system is controlled by a touch screen mounted in the tractor cab.

RECENTLY, I attended a field day in California's San Joaquin Valley where the latest technology in land leveling, AutoLevel, was introduced by AutoFarm. AutoLevel is a GPS-based leveling system that uses signals from global positioning satellites to control a scraper moving soil from the high spots in the field to the low spots. This is a big deal because for more than 20 years this type of leveling has been done using laser technology to control the scraper.

The AutoLevel system is easier to use than conventional laser systems and has a longer range from the base station. The range limit for a laser transmitter is X mile from the transmitter, and in large fields the unit must be moved and reset one or more times before the field can be completed. With the GPS leveling system, the operating range is 3 to 6 miles from the base station, eliminating the need to set up again when leveling large fields.

Leveling Day And Night

Here in the Salinas Valley, fog is common and laser leveling systems won't work in fog because it scatters the laser light beam. Since the GPS system isn't affected by dust or fog, leveling can take place day and night, or as the computer industry people say, it will work 24/7 , providing better equipment utilization and reducing capital investment costs.

Another unique problem with small fields in the Salinas Valley is that laser leveling operators must make sure they use their laser transmitter rather than their neighbor's, especially when a nearby field is being laser leveled. The GPS-based system eliminates this problem.

AutoLevel uses the same RTK GPS technology that's in the company's other products, AutoSteer and AutoSpray, which are steering systems for tractors and sprayers.

The accuracy of these systems is sub-inch and AutoLevel accuracy is sub-inch up to 6 miles from the base station. This accuracy is maintained throughout the field, not just near the base station. The system is controlled by a touch screen mounted in the tractor cab, and the entire system is electronic with no mechanical moving parts, except for the hydraulic valve controlling the scraper.

I was impressed with the way AutoLevel is compatible with existing products from AutoFarm. The leveling system can be purchased as a separate system or added on to existing products, such as AutoSteer. Components such as the touch screen, cab box, and base station are the same for all sytems. The only difference is that an upgraded GPS antenna must be used for AutoLevel. This antenna also can be used for AutoSteer. This is very different from home computers and consumer electronics where, to me, it seems that manufacturers deliberately design new units to make older equipment obsolete.

Another system from the company is the DataLogger. If a tractor is equipped with AutoSteer, elevations will be taken every five seconds as the tractor moves through the field. This information can be downloaded to a Windows computer using a flash disc.

Then, using the provided software, elevation maps of the field can be created. These maps can be used to determine whether the field needs to be releveled. This technique is more accurate than the laser surveying which is commonly used today.

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