



Special Report

Topcon revolutionizes agricultural land leveling



Topcon's agricultural productivity products made an impressive appearance at the World Ag Expo - the biggest farm show in the world. This major event was held on February 14-16, 2006 in Tulare, California.



Jim Platt, farmer and Topcon dealer

Agricultural producers and land leveling contractors have used laser-guided grading systems since the 1980s. Topcon has created new products based on satellite positioning technology for precision farming applications.

Jim Platt farms 660 acres in the Yuma Valley of Arizona for the production of cotton and wheat. Platt started using laser systems in the 1980's to improve his operations. In 1988, he needed to replace his existing system. He looked at what the existing brand offered - the same system that was offered 20 years before. But Platt wanted something new, better, and with improved features.

Demo makes sale

Following the advice of a friend, Platt asked for a demonstration of Topcon's system. He was impressed with the advanced features. "After trying out the Topcon system, I was convinced," he said. Several months later he decided that others in his area would like Topcon products as much as he did. In January 1999, Platt formed a new company - Plateau Lasers - and became a Topcon ag

product and machine control dealer.

Platt sees many advantages to GPS for leveling farm fields. "GPS offers so much more than what a laser does," he explained. "You can work under conditions that would shut down a laser system - high wind, dust, and fog. GPS systems are not sensitive to thermal shifts and inversions like lasers are."

Laser systems are limited in their operating range, usually restricted to a 1,000-foot operating range. "With GPS," Platt said, "you can set up and level virtually any size field. The largest field we have in our area is about 160 acres."

'It's not a science'

Laser systems require a field survey. The operator must estimate the main cross slope and adjust the laser accordingly. "It's not a science," Platt said. "It's more of a user dependent interpretation."



The System 5 3D control box

Topcon offers the AGS-100 GPS+ system specifically designed for land leveling tasks. The System Five 3D control box enables the operator to survey and design a field right from the cab of the tractor.

"With the AGS," Platt said, "you can go right into a field, do your survey, and the software does the rest."



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Pavel Kosten, right, Topcon's agricultural product manager, explains how GPS+ products can improve production to two potential customers involved in a land leveling business.



Topcon's AGS-100 system was featured at the 25,000-square foot Park and Drive demo area. Attendees could ride the JD 8320 and experience the performance

It tells you what the best fit is to move the least amount of dirt and finish that field the quickest. It's a huge benefit."

Another important part of agricultural activities is field design. Topcon offers AgForm-3D software as a companion to the AGS-100 agriculture GPS control system. Using Topcon's HiPer Lite GPS base and rover system and FC-100 field controller, topographic surveys of fields can be obtained on foot, on a four-wheeler, or from a pick-up truck.

AgForm-3D also operates on a notebook computer. Existing field contours and profiles can be viewed and analyzed. Fields can be designed as a single plane with a constant cross slope, or broken into as many sections as needed with differing slopes. Once the design is complete, it can be transferred easily on a flash card to the AGS-100 control system on the tractor.

Good crowds at Topcon booth

Many agricultural producers and land leveling contractors stopped by the Topcon exhibit tent and "Park and Drive" demo area to see the latest developments in technology. Marshall Tanner, owner and operator of T's Custom Dirtwork in Handford, California, currently uses a competitive brand of laser equipment. His company specializes in leveling fields ranging in size from 40 to 250 acres.



Mike Dent farms 1,000 acres for alfalfa production.

After seeing the features of Topcon's ag products, he found advantages over his existing system. "I like the mapping capabilities," he said. "With Topcon's system, I can calculate my yardage and clearly visualize my cut/fill operations."

Mike Dent owns a 1,000-acre alfalfa production operation in Fallon, Nevada. He is using a laser system for leveling 15-to-30 acre fields on his farm. Dent had some experience

with a GPS system that required a subscription fee for a signal correction service. In his opinion, this system had one major disadvantage. "When I'd get around trees at the edges of fields, I'd lose my signal. The system couldn't function under those conditions. We're getting into better technology now," Dent said. "There's got to be something better out there."

Considering AGS-100 system

Dent is considering Topcon's AGS-100 system, which features Topcon's GPS+ technology. GPS+ is the only satellite positioning technology available for agricultural applications that enables access to Russian GLONASS satellites in addition to the U.S. GPS satellites. Access to more satellites virtually eliminates signal loss near trees or other features that block parts of the sky. It also eliminates downtime associated with GPS-only systems when there aren't enough satellites available for system operation.

Topcon's sales and technical support personnel were available during the three-day show to answer questions and demonstrate products. After speaking with hundreds of farmers and land leveling contractors, it was clear that satellite positioning is the wave of the future for farming - and Topcon offers advanced products with the most desirable features.



Larry Davis, Ken Coehli, and Marshall Tanner stopped by Topcon's booth. Tanner liked the mapping features of AgForm-3D