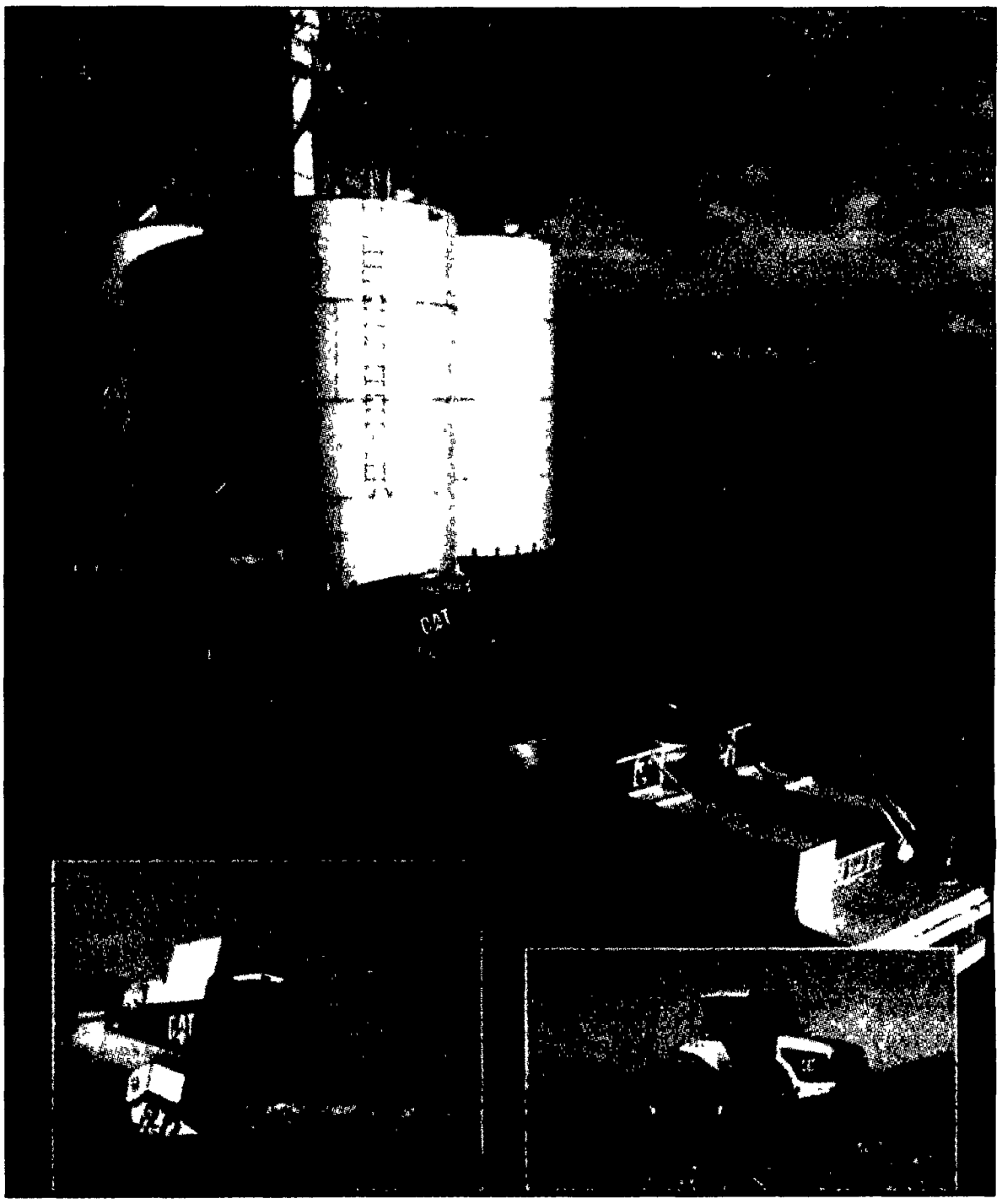
Celebrating Agriculture With National Ag Day

Agriculture Step by Step

In the early decades of the United States farm, families were self-sufficient. They provided for themselves by raising crops and livestock, making their own clothes, gathering fuel for heating and cooking, and constructing their homes and shelter. Food was primarily grown or raised to feed the family. Since the 1800s, science and technology have helped make agriculture more productive. Around 1850, each U.S. farmer produced enough food to feed five people. By 1940, one farmer grew or raised enough to feed 19 people.



Today, the United States is the most productive agricultural country in the world, with a diversity ranging from orange groves and cotton farms to cranberry bogs and fish farms. Each U.S. farmer produces food and fiber for 129 people - 101 in the United States and 28 in other countries. The United States has 6 percent of the world's land area and its farmers produce 16 percent of the world's food supply. In the mid-1990s about 975 million acres of land were committed to farming, either as cropland, grazing land, timberland or fish farms.

The United States had about 2 million farms in the mid 1990s, including more than 145,000 farms operated by women. The average farm size was 478 acres. A farm is defined as any establishment that sells, or would normally sell, $1,000 or more of agricultural products during the year. The farm population of 4.6 million people represents about 1.9 percent of the total population.

Today, most Americans do not grow or raise their own food. There are now several steps and numerous people and careers involved in the production process of getting the food from the field to the consumer. In general, the production process involves three primary groupings: raw-goods producer, middleman and consumer. Numerous people are involved with the work in each of these primary groupings. The final group, the consumer, is you, family friends, anyone who purchases and/or uses the final product.

Every step of the production process requires numerous resources and involves many careers. Agriculture and its related industries provide jobs for almost 23 million people in the United States. In addition:

* Nearly two million people operate or are employed directly in farming
* About four million people produce the machinery and resources used on the farm or process and market what farmers produce.
* More than 17 million people are employed in wholesale and retail operations to get farm products to the consumer.

Agriculture offers many challenging and fulfilling careers, both in farmin gand ranching and in related industries. The wide variety includes farm managers; farm economists; food scientists: seed producers; fertilizer manufacturers; crop consultants; plant and animal scientists; food inspectors: agricultural teachers: agricultural pilots; cooperative extension agents; soil scientists; pesticide product developers; distributors; shipping personnel; storage personnel; marketing specialists; sales people; designers and manufacturers of various bottles, cans, bags and boxes; agricultural journalists and photographers; nutritionists; truck drivers; utility personnel; supermarket managers; and many others.

Ag Equipment Service Builds on Past Success, Emerging Trends

As ag equipment companies look for ways to thrive in a down economy, farmers are seeing big changes in how these companies do business, including providing service and maintenance for their machines. In many cases, farmers are seeing a rise in on-site service as some dealerships consolidate or close.

Some companies, such as Caterpillar, are looking to the past as well as the future for information on what makes a strong service program. According to Caterpillar management, years of experience in other industries can provide a looking glass for the industry on how to support farmers who need it.

Capitalize on Equipment Investment

"We want our customers to get all the value they pay for when they buy a Challenger(r) tractor," says Rae Kurth, Agriculture Business Unit manager, Ziegler Inc., Minneapolis, Minn., a long-time Caterpillar dealership. "Caterpillar has designed a lot of rebuildability into its tractors, but in order to take advantage of that, owners need to think about their machine's long-term care and maintenance."

Preventing problems is what Caterpillar has been doing in all its businesses for years. "We've always emphasized that components have life limits on the industrial side," says Kent Lynch, Caterpillar service engineer. "It's no different with our ag equipment. Components signal their wear through reduced tractor-performance, noise or abnormal oil samplings. These indicators can help farmers replace worn parts before complete failure causes costly down time."

To help farmers manage their equipment, Caterpillar recommends regular preventive maintenance, including oil sampling in all component reservoirs. "Oil sampling is a very accurate predictor of problem areas and can help prevent catastrophic failures," Kurth notes. "A bearing that seizes and goes to complete failure may damage a lot of other parts, such as gears and shafts, that would not have needed replacement if the initial problem had been caught before failure."

Most Caterpillar dealerships are equipped with labs for oil-sample analysis to detect materials that indicate component wear. As owners compile a sampling history, technicians can tell when something out of the ordinary is occurring and make recommendations to deal with the problem.

Service in the Field

How to service equipment quickly is another lesson Caterpillar has learned from its construction business. Caterpillar has found the best way to service machines can be to bring the repair shop to the field when that makes the most sense.

"Just like the construction industry, service response time in agriculture is critical," Kurth notes. "We don't necessarily try to pick up machines and bring them into our shops-we do as much work as possible in the field. We can be far more responsive that way."

Caterpillar mobile service units go from one job to the next, unencumbered by service bay scheduling challenges that can delay repairs at dealership shops. "Building space and scheduling limitations can be obstacles to prompt service," Kurth explains. "When our serviceman arrives, he's ready to go to work. He has a laptop computer on board for communicating with the dealership, and to resource technical data, obtain machine history and order parts."

Service of the Future

Just as technology advancements have brought computers and cell phones to today's mobile service units, further developments will bring more service-related enhancements in the next few years, Lynch predicts.

"One of our dealers has already installed enhanced GPS units on its rental Challengers, which communicate data about the machines' location and operation to the dealership," Lynch notes. "Hours of use and engine parameters are relayed to dealer managers who monitor maintenance needs. Similar technology will likely be available for customers' tractors within the next few years."

As ag equipment dealerships continue to consolidate and cover larger geographical areas, Kurth foresees other companies moving towards Caterpillar's service philosophy. "If you look at the likely paradigm for the ag dealership of the future, I think it's going to look pretty similar to what Cat dealers are doing today."