

# Deere develops new field research tool

**SAN ANTONIO, Tx.** — John Deere has developed a new research tool which Company engineers say will expedite the development of more fuel efficient tractors.

The machine, called a Dyna-Cart, is a towed dynamometer with instrumentation for monitoring various tractor performance features. Additionally, it is programmable to duplicate the load factors which would be imposed by various types of drawn agricultural implements.

"The Dyna-Cart measures and displays drawbar pull, speed and fuel consumption of tractors operating under field load conditions. From these measurements, it calculates performance in terms of acres per hour and units of fuel consumed per acre," says Bob Mayfield, Senior John Deere Engineer in charge of special projects.

"Additionally," Mayfield says,

"the Dyna-Cart can be programmed to follow a load cycle such as would be imposed by an implement being pulled in field conditions. The combination of its various measuring features, along with its programmability, provides us with a unit that can give us the consistency of laboratory measurements in a field environment."

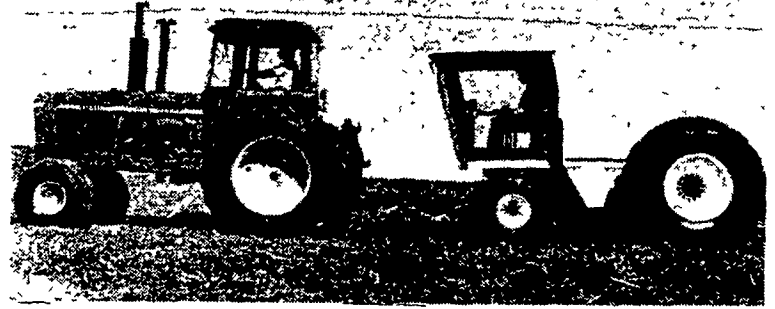
Mayfield described how a tractor equipped with telemetry and pulling a towed implement, such as a chisel plow, could provide data on the load imposed by the chisel plow as it is pulled through a field with varying soil conditions. This data can then be programmed into the Dyna-Cart's computer. Thereafter, a tractor can pull the Dyna-Cart with that programmed load and the computer will provide the engine performance information as if the tractor were pulling the chisel plow of the Dyna-Cart.

Mayfield was quick to point out that testing with the Dyna-Cart is a supplement to, and in no way a substitute for, the more conventional testing which is conducted on test tracks.

"Concrete test tracks are still important, and always will be, as a means of minimizing the variables and assuring the scientific validity of some tests. The whole point is that farmers do not farm on concrete; they farm on dirt. The Dyna-Cart is a device for duplicating those conditions which the farmer encounters in his fields, as opposed to the conditions on a track; and being able to duplicate the field conditions to compare performance features."

In addition to its use in tractor research, the Dyna-Cart will be used for educational purposes.

"We plan to use the Dyna-Cart," says Bill Holstun, Manager of Row-Crop Tractor Marketing for John Deere, "for demonstrations



The new John Deere Dyna-Cart, programmed to duplicate implement loads pulled by a tractor in the field, can duplicate the load an infinite number of times, always to within one percent of accuracy.

to farmers to show the advantages of properly ballasting tractors, properly matching implements to tractors, the advantages of radial tires, mechanical front-wheel drive, and other features." In this manner, John Deere

hopes to use the Dyna-Cart not only in the development of new tractors but as a teaching device to show farmers how they can get maximum performance out of their present tractors.

## Mostly flat year seen in ag machinery sales

**CHICAGO** — A flat market for farm and agricultural equipment is seen for most of 1982 in a survey of manufacturing members of the Farm and Industrial Equipment Institute.

The survey conducted by the FIEI in late December and early January calls for a five percent increase in the retail dollar volume of ag machinery to be purchased in 1982.

But this expected increase in sales is attributed to rising prices, a continuing shift to larger machinery, a pent-up demand for equipment and an anticipated decrease in interest rates.

While the five percent increase is expected for 1982, as compared to the depressed year of 1981, sales figures for the year would remain substantially below figures recorded in both 1979 and 1980.

All in all, survey participants believe that 1982 will see sales remain flat for most types of ag equipment and machinery with any possible turnaround not coming until late in the year.

"Deterioration in the U.S. farm outlook has been caused by a combination of things," Robert L. Green, J.I. Case executive, pointed out in his survey report to the Institute.

These include "depressed prices, high interest rates, rising total debt, and price increase in farm production inputs. The ratio of real prices paid versus prices received is at its lowest level in a decade. The unfavorable condition of the farmer's balance sheet will have a negative impact on his buying intentions in 1982."

Green went on to indicate that the farm credit situation will continue to be tight as lenders become increasingly nervous about the credit-worthiness of their farm customers. Overall, these concerns predict a flat market for farm and agricultural equipment during most of this year.

Figures in these States of the Industry forecasts reflect the median response range of 45 major producers of field machinery and 46 manufacturers of farmstead equipment. Members were asked to respond to questions pertaining to products they manufacture but to make their predictions on an industry-wide basis. Individual segments broke down this way:

### Farm Tractors

Unit sales of all tractors over 40 HP are expected to increase by 1.8% to 105,700 units during 1982. This level is 11% lower than 1980 and 24% lower than 1979. The extended 1983 forecast indicates a considerable rebound to the 113,000 range.

In the various horsepower

classes, 1981 sales of under 40 HP tractors are estimated to have risen by 2% from the 1980 level and are expected to gain an additional 0.8% in 1982.

The 1982 40-99 HP tractor market is forecasted to increase to 51,000 from the 50,966 level in 1981. At that size the 1982 market will still be down by 12% from 1980 and down 22% from 1979.

The sales of two-wheel drive tractors 100 HP and above are expected to increase by only 0.4% from the very low level of 43,188 units in 1981 still significantly below the 1980 level of 50,328 and the 1979 level of 62,535.

The four-wheel drive tractor market is predicted to grow by nearly 6.1%. This growth will bring the 1982 market to 10,265 units, nearly back to the 1980 level when 10,887 units were sold.

### Combines

The sales of self-propelled combines in 1982 should see a 3.5% gain over 1981, when sales increased 4.2% over 1980. The expected sale of 27,755 units would exceed 1980 actual sales by over 2,000 units.



Frederick Toomey, 241 E. Market St., Hellam, has been awarded the professional auctioneer designation by the Certified Auctioneers Institute following 90 hours of instruction at Indiana University. Member of the Kreutz Creek Valley Lions Club, Riverside Lodge #503 F.A. & M. and St. James Lutheran Church, he has served as vice president of the Hellam Borough Council and belongs to both the Pa. and National Auctioneers Associations.

### Tillage Equipment

Sales for disk harrows and field cultivators are expected to increase by 5.3% and 4.7% respectively while the market for moldboard plows is expected to continue to decline by 8.1%. This is down nearly 30% from the 1980 level and down 46% from 1979. The market for chisel plows is expected to rise by 4.8% in 1982, after declining 4.0% in 1981.

### Hay and Forage Equipment

Sales of round balers in the over 200 lb. bale class are expected to continue gaining popularity with

sales increasing by 3.1% in 1982. This is opposed to an expected decline of .8% in sales of under 200 lb. balers during the same period. Sales of mower conditioners should be up 2% in 1982, although the market of 18,900 units will still be 2.9% below the 1980 level.

Forage harvesters should see a 3.9% increase in sales, however this gain is considerably offset by the 19.6%-drop experienced in 1981. The windrower market is also expected to be off again in 1982 at a level of 6,800 units. This is down 26% from 1979 and down 7% from the 1980 level.

Sales of grinder/mixers are expected to be up by 7.2% in 1982 to 6,700 units. Manure spreaders are expected to increase to 13,350 units, up 1.9% from the 1981 level.

### Farmstead Equipment

In the following categories, manufacturers forecast the change in retail dollar sales:

Portable farm auger and elevator sales will increase by 5% in 1982. Sales of bin type crop dryers are expected to increase by 10%, while batch and continuous flow type are expected to remain flat in 1982 then rebound by 8% in 1983.

Gran bin sales are expected to increase by 10% in 1982 and 1983. Sales of milking machines are anticipated to remain even in 1982, but rising by 5% the following year.

Farmstead equipment for hog production is expected to gain 3% this year and 13% in 1983, while farmstead equipment for dairy and beef production is expected to stay even in 1982, but increase by 10% in 1983.

Sales of chemical application equipment in 1982 will rise by 6% and increase an additional 5% the following year.

## Weed scientists to meet in Boston

**ST. LOUIS, Mo.** — The 22nd Annual Meeting of the Weed Science Society of America will be held Feb. 9-11 at the Park Plaza Hotel in Boston, Massachusetts.

WSSA is a 2,000 member organization of weed scientists from universities, government and industry throughout the world dedicated to reducing economic losses in agricultural production, and meeting other areas of society's needs in weed control.

"New demands are facing the producers of the food and fibers we depend on for survival," said WSSA President, Donald E. Davis, "and those of us in weed science must meet the challenge of helping world agriculture."

"Nearly three hundred technical papers, representing some of the best science available, will be presented at the WSSA Annual Meeting in Boston," Davis said. "The work described will influence the contributions of weed science to improved agricultural productivity in the next decade."

The theme of the 1982 annual meeting is "Weed Science Opportunities in the Eighties." Topics

to be covered include research on integrated pest management and weed control in reduced tillage systems.

The general session, to be held the morning of Tuesday, Feb. 9, will be opened by the Honorable Michael S. Dukakis, former governor of Massachusetts, and now director of Intergovernmental Studies of Harvard's Kennedy School of Government. Addresses will be made by WSSA's president, D.E. Davis of Auburn University, as well as Gideon Hill of DuPont Co., H.M. Singletary of the North Carolina Department of Agriculture and George Templeton of the University of Arkansas. The general session will be chaired by WSSA's president-elect, T. Jack Sheets.

At the honors and awards luncheon scheduled for Wednesday, Feb. 10, recipients of Honorary Membership, fellowships and awards will be announced. Recognition will be given outstanding weed science-related performance in research, extension and graduate work, teaching and writing.

## Broiler numbers increase

**HARRISBURG** — Placements of broiler chicks in the commonwealth during the week ending Jan. 23 were 2,190,000, according to the Pennsylvania Crop Reporting Service.

The placements were five percent above the corresponding week a year earlier but six percent below the previous week. Average placements during the past nine week were one percent above a year ago.

Placements in the 19 key poultry producing states were 78,577,000, one percent above the same week a year earlier but slightly below the previous week. Average placements in the 19 key states during the past nine weeks were two percent above a year ago.

Broiler-fryers slaughtered in Pennsylvania under federal inspection during the week ending Jan. 13 totaled 1,421,000, with an average liveweight of 4.11 pounds.

## Joins Sire Power



R. Rinell Vincent has been named to a new staff position of National Sales Manager for Sire Power, Inc., Tunkhannock. He will be responsible for Sire Power sales throughout the U.S., outside the membership areas of West Virginia, Maryland, New Jersey and Eastern Pa. For the past 9½ years, he had served as a district sales manager for American Breeders Service.