

Greenhouse blankets cut fuel bills in half

Using research findings some growers are chopping fuel bills one-half, report scientists involved in the trials at Penn State.

At the firm of J. L. Dillon, Inc., Bloomsburg, thermal blankets are pulled over beds of growing plants to exclude chilly night temperatures. Blankets are removed the next day to expose plants to warm sun. The firm chopped heat bills by \$20,000 in one year.

Greenhouses used in conservation research can be inspected during the activities of Agricultural Progress Days, Tuesday through Thursday, nine miles west of State College on Route 45. The exhibits will be open from 9 a.m. to 5 p.m. each day.

University tests at Penn State, Cornell, and Rutgers produced savings up to 60 percent when thermal blankets were used. Material and installation expenses can be recovered in one to three years.

Most greenhouse operators experience

similar savings, but no single technique fits every situation, caution researchers John White, professor of floriculture at Penn State; and Robert A. Aldrich, now professor and head of agricultural engineering at the University of Connecticut. They estimate 20,000 acres are under glass in the United States.

Experimental and field applications demonstrate that operators in colder climates must innovate and make conservation decisions on a case-by-case basis, White reports.

The greenhouse of John Lochner of Kirkwood, Mo., is one such situation. After Lochner covered his 30-by-100 foot quonset style structure with double polyethylene and installed thermal blankets, one 300,000 BTU heater provide sufficient for the house.

Researchers help operators find other ways to cope effectively with fuel costs.

Without conservation measures, a Bethlehem

greenhouse enclosing 19,200 square feet needs 43,000 gallons of No. 2 fuel oil to heat the structure built with single-layer lapped glass. Penn State research found that covering the glass with air-inflated double polyethylene cuts oil to 29,000 gallons. Adding thermal blankets increases insulation value and pares fuel to 12,000 gallons.

Now on the market are practical exterior covers, thermal blankets for interior spaces, sidewall insulation,

infrared heaters, and solar and associated storage systems.

But, White indicates, some unproven techniques are on the horizon. One is soil heating in combination with blankets for individual beds of a greenhouse. "They look promising," he says, "so why heat the entire house?" Another is power-plant waste heat as a potential method of heating greenhouses.

White and Aldrich have written a manual entitled

"Greenhouse Energy Conservation". The manual is published by Penn State in easy-to-read non-technical language, with 27 illustrations.

Each section includes thorough discussions of payback times, expected fuel savings, energy efficiencies, and other economic data. Growers report their experiences, describe potential problems, and suggest solutions. Commercial products and suppliers are listed. Sections

are included on cold-tolerant crops, cultural conservation methods, boosting efficiency of present equipment and operation, and tips for hobby operators with greenhouses attached to homes.

"Greenhouse Energy Conservation" is \$2.50 per manual, postage paid; rates for bulk orders are available upon request. Order from Industrial Research and Innovation, 225 Pond Laboratory, Dept. AG, University Park, PA 16802.

Grain market outlook firm despite current weakness

LANCASTER — Grain market prices are currently under downward pressure because of high interest rates and the tense situation in Eastern Europe.

However, declining supplies of grains and

oilseeds, coupled with strong demand, provide a relatively firm base for stronger grain prices.

In early December, year end world stocks of grain for 1980/81 were estimated at 152 million metric tons —

little changed from the November estimate but 20 percent below the 191 mmt carried over in 1980.

This will be a record single-year decline in world carryover grain stocks.

Total production is expected to remain near the 1979-80 output, but consumption is trending upward. Stocks will show the greatest decline in the United States because 1980 coarse grain crops were sharply reduced and use is up in response to strong demand.

World consumption of wheat and coarse grains in 1981 is expected to exceed production by nine and 32 mmt, respectively.

Consequently, yearned stocks of wheat in 1981 will be reduced to 70.4 mmt; this would be the lowest level since 1976 and represents a lower stocks-to-use ratio than during the tight supply situation of the mid-1970's. Year end stocks of coarse grains are projected to be lower than in the mid-1970's both in absolute terms and in the stocks-to-use ratio, with the U.S. situation particularly tight.

U.S. Livestock prices will also increase next year, particularly in the second

quarter. Lower pork production will be the major factor underlying the upward price pressure, but declining beef production will reinforce the situation in the spring.

In 1981, prices will rise for most farm inputs, with energy prices increasing the most. On a per-acre basis, crop production costs may average 10 to 13 percent higher than in 1980. However, if crop yields return to more normal levels next year, increases in per-unit costs will be much less.

Net farm income (in current dollars) will improve in 1981, perhaps regaining all the loss of 1980. Sharply higher prices for most farm commodities will be instrumental in raising cash receipts.

If growing conditions are more normal next year, increased farm inventories would add to net farm income, and higher yields would partly offset the impact of rising input prices.

Retail food prices are expected to rise 10 to 15 percent in 1981, led by meat, poultry, and eggs. The farm value component will account for more of the increase in retail prices than it did in 1980.

Stud sells 60 young sires

ELBURN, Ill — Curtiss Breeding Industries has sold sixty of its surplus young sires to Select Sires, Inc and Midwest Breeders Cooperative, the company announced recently.

Many of the young bulls are sons or grandsons of Pawnee Farm Arlinda Chief, Milu Betty Ivanhoe Chief and Paclamar Astronaut, according to Karen Drier,

Director of Communications

The sale was part of a program to provide a better balance of genetic material among the Curtiss young sires-in-waiting, she said


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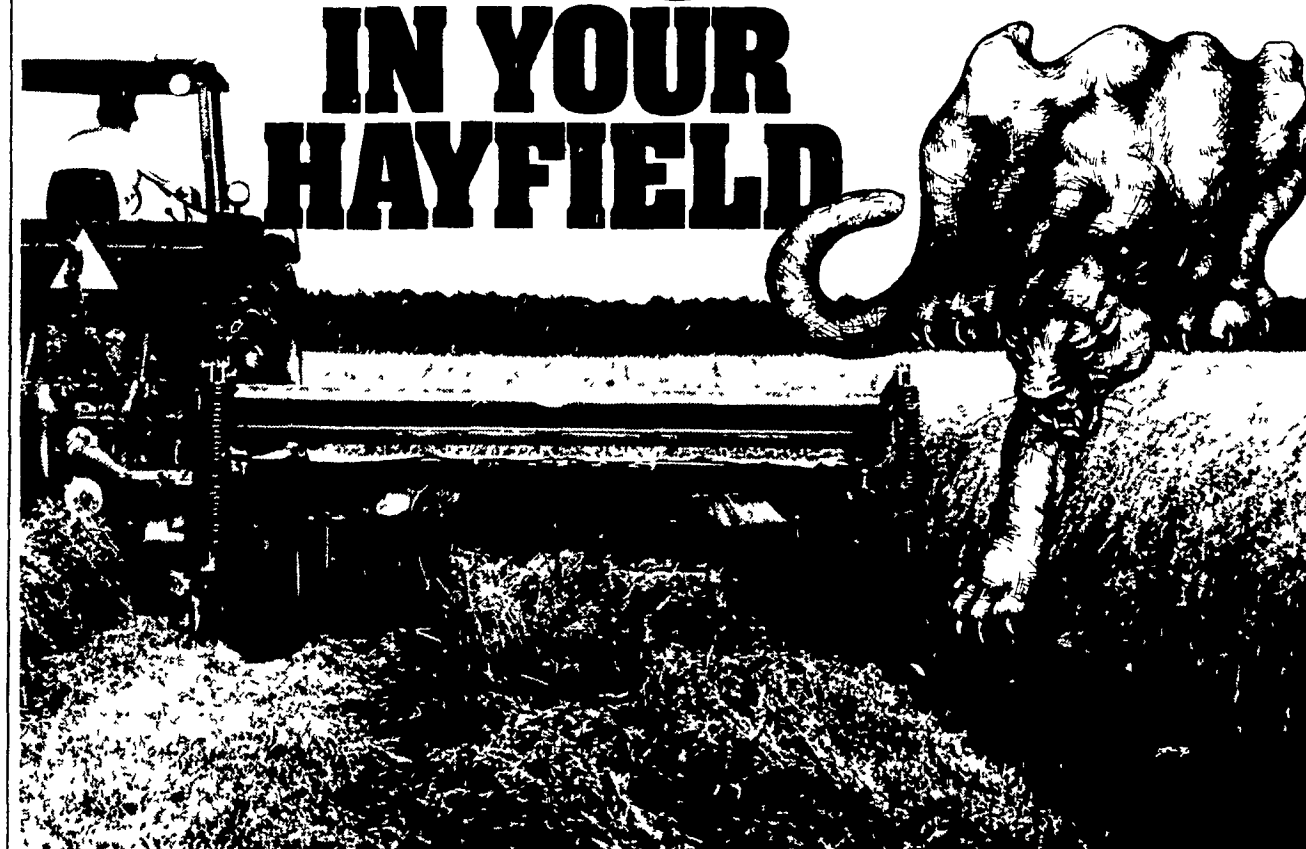



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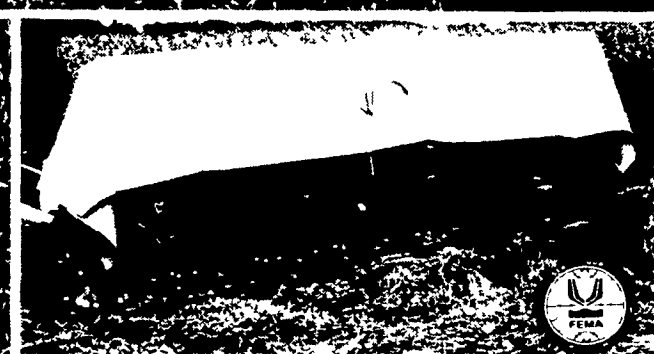
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