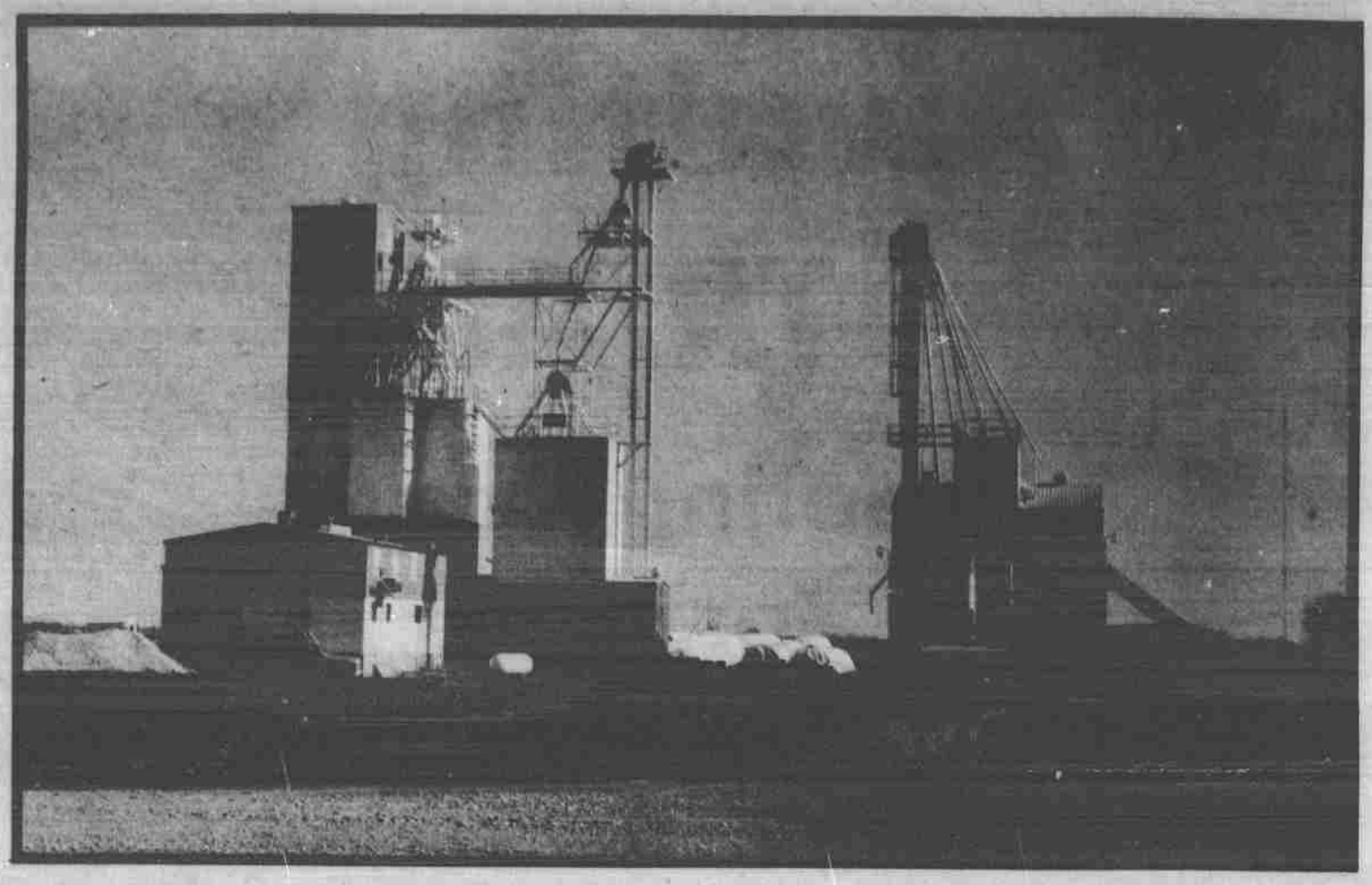
Field lab: putting nature to the test

By Paul Bejot



With spring coming maybe it is time to get out of the city to see the University of Nebraska Field Laboratory at Mead. The experiment station could open your eyes to the wonders of animal science, chemical and botanical research.

There is something for everybody at the field laboratory at Mead.

"There is even interest for the urbanite," said Sahs, station supervisor. "Our Horticultural Dept. has experiments progressing on new turfs, chrysanthemums and roses. The State Rose Show is held here every other year."

The Field Laboratory covers a 15 square mile area. It is recognized as one of the largest and most potentially promising agricultural research and demonstration laboratories in the United States.

The lab is open every day of the year, and hosts up to 20,000 visitors annually. The Mead lab was initiated in 1962 through a 20-year General Services Administration grant.

Located over the rich alluvial soils of the former Platte River Valey, it is an excellent location for both the visitory and the experimenter.

One of the most visually striking experiments is the forestry research.

"We are testing the effects of wind breaks on crop production," said James Brandle, Asst. Forestry Professor. "Rows of pine and cedar, alternated with either cottonwood or green ash, are planted in a tic-tac-toe pattern. Crops are planted in between. Last year certain windbreak systems yielded from 16 to 60 bushels of corn per acre over corn in unsheltered areas."

Seed Produced

Trees are also gathered from all parts of the country to see how they do here. The ones that thrive are used to produce seed to distribute across the state.

The towering feed mill is the hub of the beef and the swine research. The major goal of both projects is to help keep the meat price low for consumers.

The beef nutritional research concentrates on finding economical means of cattle feeding. Terry Klopfenstein, Animal Science professor, explains: "Products such as corn stalks and wheat straw which have a limited value on the field, may have an economical feed value for young growing cattle."

Both the beef and swine operations are concerned with comparing confinement feeding. Continement is a recent development which allows feeders to fatten livestock indoors.

Construction will begin soon on a new $850,000 swine research unit, said Ernest Peo, Jr., animal science professor. The in door unit will be used for reproduction research on the 2,500 head operation.

Improving efficiency

"We are concerned with improving the reproductive efficiency of swine. We are selecting animals that reach puberty the fastest for breeding stock. The Reproductive Physiology Dept. looks at environmental factors that influence the ovulation rate and sexual age in swine.

The swine building is not all that is new. Testing new farm machinery and methods is the role of the Agriculture engineering Dept. Chairman William Splinter explains: "Center pivot, skid-row, solid-set, and drip irrigation systems are being tested. New hay-bailers and stackers are being tested for their capacity, hay loss, and spoilage factors. Even a computer model grain dryer is being tested. Acid is being tried as a corn-drying substitute."

Plant breeders are busy developing varieties of seed, Sahs said.

If new seed varieties are found to be beneficial they are increased, named by the Foundation Seed Division and released to farmers for certified see, and to commercial seed growers.

Modernization has come for the dairy farmer, said Phillip Cole, animal science professor. "We are looking at the usefulness of an automatic self-feeder which is triggered by a magnet worn by the cow. The magnet tells how much and what type of feed it will get."

"Our major goal is reducing the costs of raising replacement milk cows.

Replacement calves

"We are also looking at new ways of raising replacement calves more efficiently." They are learning how to save cholestrum (the first three days of milk) to feed to calves, Cole said.

All of this research is important for the farmer, rancher, and consumer.

Agriculture research is expensive, said Sahs.

"New ideas and developments are put in the field laboratory for two to four years, tested, and checked out. If found beneficial they are accepted by farmers," he said.

Sahs said they send a progress report each year to the U.S. Dept. of Health Education and Welfare (HEW).

If you can't see it in the spring, perhaps the Tractor Power and Safety Field Day July 28 is the time to tour the experiment station.

Another attraction at the experimental station is Behlen Observatory, operated by the UNL Physics and Astronomy Dept. which offers a night life at Mead. Visitors can view celestial bodies through telescopes. Films and slides on astronomy are shown.

These free presentations are often on research in progress at the observatory.

At Behlen, precise measurements of the brightness and colors of stars are taken and the structure of interstellar clouds and galaxies are studied. **3D**

Above: Feed mill at Mead agricultural experiment station. Bottom: (l. to r.) Cattle used in animal science research; Warren Sahs, station supervisor; What to see at Mead.