

Homecoming mixes royal smiles and a K-State crusher



Photo by Bob Pearson

The jubilation of being crowned UNL's 1978 homecoming queen was displayed Saturday afternoon as Mary Fastenau beamed her obvious delight.

Fastenau, a regent's scholar and member of Alpha Chi Omega sorority, is a junior journalism major and *Daily Nebraskan* reporter.

Crowned king was Tim Martin, a junior business administration major and member of Phi Kappa Psi fraternity.

A crowd of 75,818 fans witnessed the royal coronation as the Huskers responded with a lopsided romp over league foe, Kansas State.

The last time UNL lost a homecoming game was to Kansas State in 1968.



Photo by Jerry McBride

East Campus' meat lab undertakes new animal research

By Sue Brown

While consumers continue to buy and tenderize red meat products, the Loeffel Meat Lab on east campus has been researching mechanical and chemical ways to tenderize meat, according to an assistant professor of animal science.

Prof. Dennis Olson, whose job includes 70 percent research and 30 percent teaching said that although the lab does engage in carcass study of animals, its emphasis is in the area of meat processing.

According to Olson, the connective tissue and contractor proteins determine the tenderness of the meat. This tenderness can be measured by the instron, a machine located at the plant.

The instron, named for the company that makes the machine, measures the physical properties of any material. Costing about \$33,000, its application to the food area is a new objective way in which to measure meat tenderness.

Another way of measuring meat tenderness deals with the minerals of iron and zinc in a process called X-ray fluorescence.

The content of iron carried in the bloodstream is higher among older animals, leading to tougher connective tissues

between the muscles.

Zinc present

High amounts of zinc are present in animals with enzyme systems in good working order. Such animals have been found to be younger, which can mean better meat quality, Olson said.

This theory of low iron-high zinc relating to more tender meat has been patented, however, according to Olson, the research continues development.

The lab also uses both trained and consumer meat tasting panels to judge meat desirability and tenderness.

Olson explained a mechanical meat tenderization process which allows tiny needles to puncture the connective tissues of the meat as well as chemical processes which add enzymes to the meat in an effort to tenderize it.

One of the well-known ways of measuring meat tenderness is the USDA grading system which, according to Olson, is not a good system in the prediction of eating quality. "It is simply a marketing system for live animals," he said.

The range from too tender to not tender enough is "really quite small," he said. "To guarantee a good piece of meat every time is a very large task."

For the past five or six years, the lab

has been working on an alternative to grinding meat by putting small pieces of meat of all sizes together and forming it into various shapes. The meat is bonded together by a combination of salt and pressure. According to Olson, the meat has, "a better mouth feel, it chews more like a steak."

The process allows complete uniformity of the meat as well as more use of the carcass.

Institutional level

The lab has recently been putting together larger chunks of meat (one to two inches) in an effort to make the meat look more desirable. Olson said he feels that this type of meat may have more appeal at the institutional level, to the military services, penitentiaries or hospitals rather than on the retail level.

With the emphasis on food and nutrition in the past three or four years, Olson said that the lab has done research on the relation between sodium chloride in meat products to hypertension and high blood pressure.

"There's a lot of salt in processed meat," Olson said, referring particularly to bacon, ham, and sausage.

Experimenting with a bologna product, Olson reports that the lab was able to pro-

duce a bologna with a 50 percent reduction in salt, as well as maintaining the texture, flavor and shelf-life by replacing the sodium.

"We must be concerned with flavor problems; the lower the salt, the lower the desire," Olson said.

According to the assistant professor, if the government restricts the amount of salt to be used in processed meats, certain products might have to be taken off the market.

With continued research in this area, Olson said he feels that the lab will be "ahead of the game" if such a restriction is passed.

The meat lab research is funded in part by appropriated funds from the state.

"Although it is a small part, it is money we can always count on," Olson said. Other funds come in the form of grants from such organizations as the Nebraska Pork Producers, Nebraska Beef Improvement Foundation and National Pork Producers Council.

Olson who said he feels UNL was one of the strongest meat labs in the country.

He received his undergraduate education at Iowa State and has been at UNL for two years.