DAIRY SCIENCE, M.S.

Two plans are available for graduate work leading to the Master of Science degree in Dairy Science. Students who plan to continue for the Ph.D. degree, or who expect to enter fields of work involving research, should take the M.S. degree with a track in research. Students who wish to obtain more specialized training, but are not planning for a research career, may pursue a degree strictly through course work.

The department offers one of the most comprehensive dairy science graduate programs in the country. Faculty interests and research funding in dairy science span diverse areas of focus. Fundamental training in basic science fields related to these phases of dairy science is required. Minimum admissions requirements of the Graduate School must be met. Specific degree requirements are available from the department.

There are six program areas for prospective applicants to review and choose from—see website (https://andysci.wisc.edu/students/graduate/).

Students are offered a challenging research and educational opportunity in well-equipped laboratories with modern instrumentation. Students in dairy cattle nutrition may work in collaboration with laboratories of the US Dairy Forage Research Center as well as those of the Dairy Science Department. Dairy cattle at four locations are maintained by the department for both intensive and extensive experimental work.

Research is directed toward gaining greater understanding of the biology of dairy species with emphasis on dairy cattle, and improving usefulness of these species to society by modifying milk composition, improving animal health, assessing environmental impact, and enhancing economic efficiency. Current research emphases include developing and using molecular markers and genome maps to improve accuracy of selection and speed the rate of genetic improvement; developing and applying statistical methods for estimating genetic merit of individual animals and genetic parameters of populations from performance records; studying digestive and metabolic processes in lactating ruminants to improve production efficiency and health; enhancing utilization of forage nutrients by high-producing cows through modifications of the forage plants, harvesting and storage methods, and supplemental ration ingredients; development of reproduction management programs that optimize facility and profitability of dairy farms; understanding regulation of ovarian function and the regulation of fertility in lactating dairy cows; developing and evaluating milking, feeding, record-keeping, and decision and organizational systems that contribute to profitable dairy enterprises in a changing dairy economy; management factors affecting animal health and well-being.

About one-half of the department graduate students are domestic students, with two-thirds of those students Wisconsin residents, one-third out-of-state students, and one-half of the graduate students are international students. This diversity brings a national and global perspective to research, instruction, extension, and cultural understanding.