

September / October, 2001

**Pictorial Tour of
The Food Engineering Teaching Laboratory
By J. Steffe, B. Marks and J. Partridge**

The Food Engineering Laboratory is part of a senior level course (BE/FSC 477) offered each fall. The venue for the lab is the MSU Dairy Plant, a "state-of-the-art" dairy/fluid foods processing facility that produces a variety of dairy products sold at the MSU Dairy Store. Most of the plant equipment (valued at over \$2,000,000) is used in the class. Course exercises are integrated into the daily operation of the plant. Students learn the engineering principles that govern process and equipment design, as well as equipment operation. A variety of student activities are illustrated below.



*Close
examination
of the plate
heat
exchanger*



*Inspecting
a 300
gallon
batching
tank*





*Falling film evaporator for concentrating fluid products.
(Dr. Marks on far right)*



Spray dryer for making powder products.



Scraped surface heat exchanger for making ice cream.

*Disassembly
of the two-
stage
homogenizer.*



*High
temperature
short time
pasteurization
system.*



*CIP
system
(Clean-
In-
Place)
used
to
clean
and
sanitize
the
processing
equipment.*





*Checking
level in the
MSU Tanker
Truck*