

Department of Processing & Food Engineering
Mahamaya College of Agricultural Engineering and Technology, Ambedkar Nagar,
Acharya Narendra Deva University of Agriculture & Technology
Kumarganj, Ayodhya - 224 229, Uttar Pradesh

About the Department

The Department of Processing and Food Engineering (Earlier called as Department of Agro Processing and Rural Industries) was established in 2003. The Department deals with undergraduate and postgraduate teaching, research and extension activities. In addition to courses related to processing, department also deals with various courses in the upcoming field of food quality and safety engineering in food processing industries etc. Department deals with the innovations in the field of Food processing which are vital for agro-processing, transforming the raw materials to the finished products at an increased rate of production, productivity and at a reduced cost of production and to meet the demands as well. Food Processing deals all aspects of the unit operations involved in processing the raw materials to the finished products, their packaging and safe storage too. The name of Department was changed from Agro Processing and Rural Industries (APRI) to Processing and Food Engineering (PFE) during the year 2016.

Objectives of the Department

- Imparting education in the field of Processing & Food Engineering to both undergraduate students i.e. B.Tech. (Agril. Engg) and post graduate students i.e. M.Tech. (Agril. Engg.) with specialisation in Processing & Food Engineering.
- Advancement of learning and prosecution of research in the field of Processing & Food Engineering
- Undertaking Extension activity for farmers in the field of Processing and Food Engineering

Brief History of the Degree Programme

M.Tech. was started in discipline “Processing & Food Engineering” with 2 seats in 2018. Now it has been revised as 3 seats in 2022.

Mandate

- To promote academic excellence in the field of Processing and Food Engineering.
- To equip the students with the knowledge of design, development Agro processing machinery
- To provide academic excellence to students in the following thrust areas:
- Development of crop specific post harvest techniques for reduction in quantitative and qualitative losses of agricultural produce.

- Development of agro processing machines for different post harvest unit operations.
- Testing and popularization of agro processing equipments for their adoption in Uttar Pradesh state.

Faculty

S. No.	Name	Designation	Qualification	Specialization
1	Dr. V.K. Singh	Associate Professor & Head	Ph.D.	Post Harvest Process and Food Engineering
2	Dr. Vipul Chaudhary	Assistant Professor	Ph.D.	Process and Food Engineering

Details of the laboratories

S. No.	Laboratories	Activities
1	Processing Engineering Lab	Practical conducted pertaining to the unit operations pertaining to Agricultural produces processing.
2	Food Engineering Lab	Qualitative analysis of agricultural produce, Separation of liquid from solids



List of equipments at present available in the Department

Food Engineering Lab

S.No.	Name of Equipment	Purpose/ Uses
1	Potato Peeling Machine	Peeling fruits and vegetables including citrus fruits, apple, pear, etc.
2	Pulper Machine	Pulping of Fruits and vegetables
3	Fruit Crusher	Crushing of Fruits and vegetables for product developments
4	Hand operated bottle sealing machine	Sealing of glass bottles
5	Manual Juice Pressure	Extraction juice from fruits, herbs, leafy greens and other types of vegetables
6	Fruit and vegetable slicer	Cutting of fruits and vegetables
7	Coil type juicing machine	Extraction of juice from fruits and vegetables
8	Centrifuge	Separation of liquid from solids
9	Milk analyser	Analyses of milk of fat, SNF, proteins, lactose, and water content
10	Thermal conductivity of insulating slabs	Determination of thermal conductivity of metal sheet
11	Bottle cleaning machine	Cleaning of glass and plastic bottles
12	Autoclave	For pressurize steam to kill infection agents
13	Steam distillation	Distillation of water
14	Hot air oven	To maintain the temperature
15	Refrigeration test Rig	Demonstrate the process of cooling of water

Process Engineering Lab

S. No.	Name of equipment	Purpose/uses
1.	Gyratory sieve shaker	To separate according to the geometric size of the particles.
2.	B.O.D. incubator	Useful for determining levels of organic matter and nitrogen in waste water samples.
3.	P.K.V. Dal mill	To conversion of pulses seed into dal.
4.	C.I.A.E. Dal Mill	To conversion of pulses seed into dal.
5.	Sieve shaker	Used for separation and size determination of particles.

6.	Indent cylinder separator	Used for grading of all granular materials on the basis of length.
7.	Air screen seed cleaner cum grader	Useful for the cleaning and grading of various crop grains.
8.	Moisture meter	To detect moisture content in materials.
9.	Semi-automatic seed cleaner	To remove the lighter particles from grains.
10.	Rice Sheller	Process of removing the chaff/outer husk of rice.
11.	Spice grinder	To grind spices, nuts and seeds into powders.
12.	Rice/grain sizing machine	To separate the grains on the basis of shape and size.
13.	Lab aspirator	To separate foreign material from granular product.
14.	P.K.V. mini Dal mill	To conversion of pulses seed into dal.
15.	P.K.V. mini Dal mill	To conversion of pulses seed into dal.
16.	Maize dehusker cum Sheller	To separate the maize grains from its cobs.
17.	Oil expeller	To extract oil from the raw materials.
18.	Paddle cum power operated air screen grain cleaner	To clean the various crop grains.
19.	Oil filter machine	Useful to filter the oils and makes it edible.
20.	D.P.R. Dal Mill	To conversion of pulses seed into dal.
21.	Hot air oven	To destroy microorganisms and bacterial spores.
22.	Vacuum oven	Used for drying heat sensitive materials such as powder to extract moisture.
23.	Paddle operated sealing machine	To sealing/packaging of any materials.