

School of Chemistry

Aims and Objectives: Session 2023-2024

Module CH1301: The Impact of Chemistry

Course Title: Chemistry in Food Production

Duration: 9 hours

Lecturer: Dr R. A. Aitken

Aims: To describe the ways in which chemistry currently contributes to feeding the world population. To give students a balanced account of the development, benefits and environmental impact of the most important herbicides, insecticides, fungicides, animal health products and food preservatives.

Objectives:

1. Appreciate the growth in human population and the consequent demand on food supply. Realise that the population growth has only been possible in part because of the impact of agrochemicals and that if the growth is to be maintained there is no viable alternative to the use of chemicals.
2. Understand the use, mechanism of action, benefits and possible drawbacks of selective and non-selective herbicides and plant growth regulators and be able to provide simple examples of each.
3. Understand the use, mechanism of action, benefits and possible drawbacks of the main types of insecticides and insect pheromones and be able to provide examples of each. Know what is meant by the development of resistance to insecticides and what can be done about it. Appreciate the uses and importance of fungicides.
4. Understand the importance of protection of farm animals against attack from bacterial and fungal infections, endoparasites and ectoparasites and provide examples of suitable treatments. Describe the applications of growth promoters and mineral supplements for farm animals.
5. Be able to describe in general terms the importance and mechanism of action of food preservatives including anti-oxidants, radical inhibitors and food irradiation.