

## Introduction:

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The Leaving Certificate Agricultural Science syllabus is designed to provide pupils with the necessary skills, practical experience and knowledge in a range of agricultural and scientific principles. The broad course takes in a wide array of topics including Soil Science, Sheep Management, Dairy and Beef Production and Plant & Animal Biology.

The course is typically aimed at pupils with an interest in Agriculture and Horticulture or those who wish to pursue a career in Veterinary medicine. An agricultural background is not a necessity, and the course covers a wide variety of topics.

The subject is based on the principles and practices of Irish farms and deals in detail with Sheep Management and Production, Beef Production, Dairy Farm Management, Grassland Management and Tillage Crop Growth and Harvesting as well as Horticulture (Gardening Design and Practices). Additional topics include Forestry, Soil Science and Farm Safety. It also covers Animal Biology and Taxonomy, Plant Biology and classification as well as Soil Science.

As well as being classroom and lab orientated, a number of field trips and excursions to farms, universities and laboratories will allow those undertaking the course see the practical applications of their learning. Throughout the two year course the pupils will keep a portfolio of their practical experience, which will be assessed and contribute to their overall grade in the Leaving Certificate.

## Aims & Objectives:

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*At the end of the VI Form, Agricultural Science pupils will be able to*

1. Understand the origin, structure, texture and properties of soils.
2. Understand the use of fertilisers in Irish farms.
3. Explain the general structure and function of plants, including macro and micro structure, plant reproduction and plant physiology.
4. Illustrate the main principles of Crop Production, with a specialism in Grass, Barley and Potatoes.
5. Account for different methods of Grassland Management and explain the processes needed to obtain and maintain good pastures.
6. Describe the main principles of Genetics and complete simple genetic crosses.
7. Outline the classification of both the Plant and Animal Kingdoms.
8. Classify common plants of agricultural importance.
9. Classify a variety of animals of agricultural importance.
10. Explain the principles of the main organ systems of the human body, as well as the ruminant digestive system.
11. Identify the principle cattle breeds associated with Dairy and Beef Production in Ireland.
12. Describe the principles & practices of Dairy Production in Ireland.
13. Describe the principles & practices of Beef Production in Ireland.
14. Identify the principle sheep breeds used in Ireland.
15. Outline the management practices of Sheep in Irish farms.
16. Maintain a practical portfolio, with details of their own practical experience throughout the course.
17. Maintain an experiment notebook, describing the methods and results of a series of practical investigations.

## Subject Organisation in St. Columba's College

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Agricultural Science is taught to pupils in the V and VI Form within the Q Set. There are two periods per week, each 45 minutes long. The classes are mixed ability. Most pupils would aim to sit the High Level exam at Leaving Certificate. As mentioned in the Aims & Objectives, the subject is practical in nature and every effort is made to expose the pupils to a range of practical investigations within these periods. In addition, the pupils will visit a number of farms throughout the course, typically a sheep farm, dairy, beef, potato and tillage farm. Pupils also visit the National Ploughing Championship each year. Pupils are expected to keep a portfolio of their practical experience, which will later account for up to 25% of their overall Leaving Certificate grade in the subject. Homework is typically aimed at pupils completion of this practical coursework or essay which may be included in their portfolio. Effort marks are awarded according to the school policy and exams are given at end of term.

## Department Resources:

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The Science Department of St. Columba's College is extremely well resourced and these resources are available to the Agricultural Science Teacher and pupils. There is also a dedicated page on the Science Department's Website ([science.stcolumbas.ie](http://science.stcolumbas.ie)) where pupils can access a range of resources including all the course notes in PowerPoint format. Also available on the site are a series of useful Weblinks, crossword puzzles and quizzes.

## Other Information:

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The Agricultural Science teacher in St. Columba's College is heavily involved member of *IASTA* (Irish Agricultural Science Teacher's Association) and has been involved with Agri Aware in providing a series of Agricultural Science study resources for pupils across Ireland. He has also written articles for the Farmer's Journal and produced a comprehensive website for pupils of Agricultural Science in Ireland, penned FarmNet.

## Department Weblinks:

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The Science Department Website – [science.stcolumbas.ie](http://science.stcolumbas.ie)

The Agricultural Science Page – [http://science.stcolumbas.ie/NEWSITE/ag\\_science.htm](http://science.stcolumbas.ie/NEWSITE/ag_science.htm)

The Frog Blog – [www.frogblog.ie](http://www.frogblog.ie)