

# 2019/2020 AGRICULTURAL SCIENCE Study Guide



## WEEK 1: Introduction



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**W**elcome to the 14th school year of the study guides for Leaving Certificate students, teachers, and parents. The articles have been written and compiled by your teachers, who are members of the Irish Agricultural Science Teachers Association (IASTA), in association with both Agri Aware and the *Irish Farmers Journal*.

The last group of students following the current syllabus for Leaving Certificate Agricultural Science will sit the examination in June 2020. The incoming students will study the new specifications to be examined in June 2021. The study guides will have a new format – the first page will contain revision material, and the second will be geared towards the new specification. New topics will include artisan foods, energy crops, global markets, etc.

Sustainability, for example, is one of the cross-cutting themes in the four strands of the scientific practices, and there will be links to soils, crops and animals.

The current academic year will be challenging for teachers, and students, as they attempt to come to grips with the new specification. Teachers and schools who purchase the *Irish Farmers Journal* resource pack will have access to a host of resources including webinars with leading experts in a variety of fields. This support is very much appreciated by IASTA members.

The marks for the practical component of the Leaving Certificate exam will remain at 25% of the total. However, it is proposed to choose a specific theme for each two-year cycle of the scientific investigations, details of which will be provided at a later date.

Agricultural Science is an exciting and engaging subject to study. You will have the opportunity to explore innovative ideas, to test them in a scientific setting, to posit suggestions, in areas such as food production and environmental concerns, with particular emphasis on the challenges raised by climate change. The knowledge and skills that students acquire will be of benefit in the agri industry and in a wide range of careers.

Finally, the Marty Barrett Award (in memory of the first chair of IASTA) is presented annually to the student achieving the highest mark in the Leaving Certificate Agricultural Science examination. The 2018 recipient is Rachel O'Connor, St Mary's Secondary School, Charleville, County Cork. Rachel is studying Biological and Chemical Science in UCC and we wish her well in her studies.

**A**gri Aware, in conjunction with IASTA and the *Irish Farmers Journal*, is delighted to be able to provide students from across Ireland with valuable study notes and educational resources for the past 14 years. This year is an exciting one as we see the introduction of the new Agricultural Science syllabus at Leaving Certificate which will be examined for the first time in June 2021.

This year sees the addition of some fantastic new resources. For teachers, there is the new *Agricultural Science – Teacher Guide to Mandatory Investigations*. This resource will navigate through the new investigations set out in the updated specification and be a valuable toolkit in every teacher's arsenal. Online resources will also be available to students this year including a series of webinars by the *Irish Farmers Journal* focusing on a variety of topics.

The students studying Agricultural Science this year will be laying a foundation stone for future careers, some of which will be in the agricultural and agri-food sector, an industry that has provided over €13bn worth of exports to our economy per annum. From an economic and strategic point of view this industry will have to compete in an ever more difficult global economy, and ensuring that our students are equipped with the highest possible skillset from education will determine the future success of industry.

There has been a significant increase not only in the number of students taking Agricultural Science as a Leaving Cert subject, but also in those opting for Agricultural Science related courses at third level. Therefore, it is important that students and teachers have materials that enhance learning and give a broad view of the whole Agricultural Science course.

I would like to thank all the IASTA members who continue to write content for this study guide page, and I would also like to thank the *Irish Farmers Journal* for its continued support with this important initiative.

Finally, to you the students and teachers, we appreciate your continued support and wish you the very best of luck for the coming academic year.

**W**e are delighted to welcome back students and teachers for the 14th year of agricultural science study guides brought to you by the *Irish Farmers Journal*, IASTA & Agri Aware. These weekly study guides are an invaluable resource for students and we would like to thank all IASTA members for their work in producing the content for these guides every week along with the production of the new teacher's resource: *Agricultural Science – Teacher Guide to Mandatory Investigations*.

We encourage all students to actively use both the study guides, the wider *Irish Farmers Journal* newspaper and our website to stay up to date on the latest developments in the sector as they occur.

Students and teachers can now also avail of 12 months print and digital access to the *Irish Farmers Journal* – we now produce 50% extra content online to complement the print product. We hope that the technical features and news articles throughout the paper alongside additional video, podcast and knowledge hub tools available on [farmersjournal.ie](http://farmersjournal.ie) will help students achieve excellent academic results.

Furthermore, we're delighted to announce that our specialist team will be running monthly webinars for teachers and students who sign up to this year's programme, covering specific topics from the Agricultural Science curriculum, to enhance the learning experience.

Our industry faces many challenges at present, ranging from the uncertainty created by Brexit to dealing with climate change. However, with challenges come opportunities for innovation and fresh thinking. It is this environment that allows the sector provide an exciting career journey for such a broad range of students.

Studying Agricultural Science is the first step in this journey and on behalf of all the team in the *Irish Farmers Journal* I would like to wish both students and teachers all the best for the year ahead. And if you're at the Ploughing, please drop by our stand and say hello to us.

## TIMETABLE Each week will focus on a specific topic as outlined below whilst also introducing a theme from the new specification.

DATE	TOPIC	NEW SPECIFICATION COURSE CROSS-CUTTING THEME
12/9/19	Introduction Week 2	
19/9/19	Plant Physiology, Water Uptake, Photosynthesis, Respiration and Transpiration	Technology
26/9/19	Bees, Flowers, Pollination, their Environment and Honey Production	Technology
3/10/19	Genetic Principles with both Plant and Animal Applications	Technology
10/10/19	Milk Production, Factors affecting content and quality	Food production
17/10/19	Rearing Replacement Heifers and Dairy Male Calves for their first year	Food production
24/10/19	Soil - Chemistry and Biology	Food production
01/11/19	Midterm	

DATE	TOPIC	NEW SPECIFICATION COURSE CROSS-CUTTING THEME
7/11/19	Heavy Soils - Origins, Management and Uses	Health and Safety
14/11/19	Tree Production, Types, Planting, Varieties and Management	Health and Safety
21/11/19	Similar Sounding and Contrasting Terms	Health and Safety
28/11/19	Animal Physiology and the Benefits of Modern Technology Aids	Policy and Economics
5/12/19	Carbon - in the soil - in plants and in the environment	Policy and Economics
12/12/19	Innovative Laboratory Experiments	Policy and Economics
19/12/19	The Horse, Physiology, Feeding and Management	Nutrition
26/12/19	Christmas	

2020 dates in next week's issue