# Overview Unit 2 Growing plants and animals

**Matthew:** [00:00:04] Hello, my name's Matthew and I'm here with Caitlin today, and we're going to talk about Unit 2 of the Agricultural and Horticultural Study Design.

**Matthew:** [00:00:13] Unit 2 animals and plants. It also encompasses two areas of study. The first being plant nutrition, growth and reproduction and animal growth, nutrition and reproduction. Could you please describe the statement for the area of study?

**Caitlin:** [00:00:28] Yes. So the first area study is plants and nutrition and students are able to analyze plant growth, reproduction and genetics and demonstrate the propagation of plants in the measurements of plant growth.

**Matthew:** [00:00:45] What content is taught in regard to plant nutrition?

**Caitlin:** [00:00:48] So students focus on the functions of macro and micro nutrients and their role in producing yields and decreasing the effect of deficiencies. So, for example, a deficiency in zinc in plants may create a stunted growth rate.

**Matthew:** [00:01:05] What content relates to plant growth and reproduction?

**Caitlin:** [00:01:08] So students should be able to analyze the challenges and issues that affecting growth rate such as hormones like gibberellins, cytokinins, auxins and seasonal weather conditions. Students compare asexual and sexual reproduction. so asexual produces identical offspring while sexual doesn't. Students also evaluate technologies used in agriculture to improve plant production, such as genetics and plant breeding.

**Matthew:** [00:01:37] Tell me about the key knowledge and skills in regard to the second area of study animal nutrition, growth and reproduction.

**Caitlin:** [00:01:46] So this is similar to plants, but focuses on animals. Their production methods, their growth rates, digestion, nutrition and reproduction.

**Matthew:** [00:01:58] What content students need to know in regards to animal nutrition.

**Caitlin:** [00:02:02] Students focus on key issues and challenges in animal production, such as treatment of animals and animal welfare. New market requirements, value of particular feeding systems and weight. Tensions between increased production and productivity and use of biotechnology. They look at intensive and extensive agricultural systems such as feedlots and grass-fed operations.

**Matthew:** [00:02:28] Content to students focus on. In regard to animal growth.

**Caitlin:** [00:02:32] So students look at ruminant, mammalian and avian digestive systems, including their structure and function and basic nutrient requirements. For example, a ruminant digestive system requires more fiber, while a monogastric gastric digestive system is more protein based.

**Matthew:** [00:02:52] What content of the students focus on in regard to animal reproduction?

**Caitlin:** [00:02:56] So students focus on mammalian and avian reproduction systems, their development stages and basic genetics and breeding programs. They evaluate reproduction systems and technologies such as artificial insemination and embryo transfer.

**Matthew:** [00:03:14] One of the case skills for students is to demonstrate through practical tasks the management of animals in agriculture. Could you please give an example?

**Caitlin:** [00:03:23] So students can apply practical learning experiences by attending field trips, virtual reality experiences, and also if they've got space at the school property, management of animals, students and teachers could also have a look at page seven of the study design. For further examples.

**Matthew:** [00:03:44] Thank you very much for your time today, Caitlin.

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