# Overview Unit 3 Securing the future

**Sarah:** [00:00:04] Hi, my name's Sarah, and I'm here with Caitlin today to talk about Unit 3, Securing The Future. The unit has two areas of study 'Innovations and solutions' and 'Risk and resilience'. Could you tell us a bit about the first area study?

**Caitlin:** [00:00:19] Yes. The first area of study is 'Innovations and solutions'. It focuses on the role of innovations and technologies and their impact on agriculture and horticulture industries.

**Sarah:** [00:00:31] What content do the students learn about?

**Caitlin:** [00:00:33] Students will study the ever changing role of innovations and technologies in agriculture and horticulture industries and apply innovative processes and solutions to agriculture and horticulture practices. They'll study its impacts past and current research into challenges faced by Australia's food and fibre industries, such as climate change and population growth. They will be able to explain challenges and threats to the industry like diseases and pests. Finally. Students will evaluate the success of past initiatives of the management and eradication of such threats. Students will gain an understanding in the principles of safe, ethical and sustainable food and fibre production, including GMOs, animal welfare and the use of herbicides and pesticides. Teachers can also click on the separate link for further explanation on innovations and technologies.

**Sarah:** [00:01:34] Can you explain the second area study 'Risks and resilience'?

**Caitlin:** [00:01:38] So in this area of study 'Risks and resilience', students study pest diseases and weeds that threaten agriculture and horticulture. They also look at measures to combat these such threats and also of biological resistances.

**Sarah:** [00:01:54] What content do students learn in risk and resilience?

**Caitlin:** [00:01:58] Yes, so students learn the characteristics of metazoal, microbial and metabolic pests and diseases that threaten Victorian plants and animals. For this study design, students are given the pest disease and weeds, rather than previous years where there was an updated list annually.

**Caitlin:** [00:02:17] The pests that students study are intestinal worms and western flower thrip. The diseases are fungal rusts and also milk fever while the weeds a gorse, flickweed and wild radish.

**Caitlin:** [00:02:33] Students learn the prevention and control methods of these pest de and weeds, including integrated pest management IPM and integrate weed management IWM. Not all diseases can be prevented and managed. There is no requirement for students to learn about integrated disease management in this design.

**Sarah:** [00:02:56] What other content will students learn in the area of study?

**Caitlin:** [00:02:59] They explored explore the reasons and impacts for biological resistance to herbicides, pesticides and also antibiotics and solutions to such resistance issues in agriculture and horticulture. For example, using cultural practices like crop rotation can be one solution to resistance in herbicides. Students will be able to explain national and bio-security laws and measures affecting Australian agriculture and horticulture industries.

**Sarah:** [00:03:29] Okay great. Well, that's a wrap on Unit 3. Thanks so much, Caitlin, for sharing your knowledge.

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