

Unit 11B

The Circular Economy in the Agriculture Sector

Precise and Rational Use of Herbicides and Pesticides

1 Introduction

Unit 11B provides resources for vocational trainers seeking to incorporate the circular economy into their courses in the Agriculture sector, focusing on the use of herbicides and pesticides and their correct utilisation. This unit explores the importance of understanding and correctly knowing these substances, focusing on the urgent need to change the current linear approach to pesticide use, as well as identifying and understanding the benefits of a precise and rational utilisation of these substances.

2 Learning Outcomes

Knowledge	Understand the issues brought by the current linear approach to pesticide and herbicide use, as well as the benefits of a rational utilisation of these substances in a Circular agriculture.
Skills	Apply precision agriculture techniques in order to be able to gradually and substantially reduce the use of pesticides.
Competencies	Implement a circular economy approach toward the reduction – or elimination – of herbicides and pesticides.
EQF Level	This material is mainly suitable for EQF Level 4



Method	Description	Suggested duration in minutes (total minutes)
Brainstorming session	Brainstorming where you as a trainer write down definitions, notions and connotations ought to be used for future discussions and references. You can continue the brainstorming session with the following questions if needed: <ul style="list-style-type: none"> Discuss the importance of understanding the use of different pesticides and their application techniques, avoiding issues such as pesticide drift. What might be the consequences of imprecise dosing and how to avoid that, as well as the strong and negative environmental impact of herbicides and pesticides? 	15
Presentation by trainer using PPT	Overview	30
	Unit Learning Objectives	
	Dosing methods and their issues	
	Possible consequences of imprecise dosing	
	Environmental impact of herbicides and pesticides	
	Impact of the abuse of antibiotics in agriculture	
	A solution: Precision Agriculture	
	Case Study – EU “Farm to Fork”: Encouraging precision farming	
	Case Study - Duijvestijn Tomaten	
	Case Study - ‘eyeSpot’	
Discussion Points		
Assessment	Quiz	15

4 Quiz

1. What is pesticide drift?

Answer: When pesticide spreads outside its target area.

2. Why is GPS technology used in precision agriculture?

Answer: To collect data about the field to analyse crops performance.

3. Why is DDT no longer a popular pesticide?

Answer: Because mosquitoes have become resistant to it.