



ESSENTIAL SKILLS FOR SUSTAINABLE FOOD PRODUCTION

Recognizing competencies for a greener future in agriculture

Key skills for sustainability

Resource efficiency and logistics management

- Importance: Reduces waste and improves supply chain efficiency.
- Action: Train in resource optimization and advanced logistics.

Regenerative and carbon farming practices

- Importance: Enhances soil health and biodiversity.
- Action: Learn advanced regenerative and carbon farming techniques.

Climate adaptation measures

- Importance: Increases resilience to climate change.
- Action: Equip with tools for climate risk assessment and adaptation.

Crop modeling and simulation

- Importance: Boosts crop productivity.
- Action: Use simulation techniques and relevant software.

Sustainable water and energy management

- Importance: Minimizes environmental impact.
- Action: Optimize sustainable resource use and technologies.

Soil health management

- Importance: Maintains soil fertility.
- Action: Apply soil health principles and nutrient management techniques.

Environmental policy application

- Importance: Ensures compliance and promotes sustainable practices.
- Action: Educate on national and international policies.

Corporate Social Responsibility (CSR) Practices

- Importance: Promotes transparency and ethical practices.
- Action: Develop and communicate CSR practices effectively.

Renewable energy systems

- Importance: Reduces reliance on non-renewable resources.
- Action: Implement renewable energy systems in agriculture.

Organic production requirements

- Importance: Ensures organic food production.
- Action: Comply with organic farming standards.

Soft skills for sustainability

Problem-Solving

- Importance: Overcomes sustainability challenges.
- Action: Develop effective problem-solving strategies.

Effective communication

- Importance: Facilitates adoption of sustainable practices.
- Action: Enhance communication skills.

Teamwork and interpersonal skills

- Skill: Assess climate risks and apply adaptation strategies.
- Need: Equip workers with tools to address climate challenges.



Self-Management

- Importance: Adapts to dynamic work environments.
- Action: Strengthen resilience and adaptability.

Lifelong learning

- Importance: Keeps up with new practices and technologies.
- Action: Commit to continuous learning.

20 relevant skills have been found that students should acquire based on the skills gaps identified in the agri-food sector:

1. Advanced data management and analysis
2. Practical skills in data interpretation and statistical analysis using tools such as Excel
3. Digital entrepreneurship
4. Online data retrieval and digital content consumption
5. Quality assurance and testing procedures for digital product management systems
6. Practical skills in supplier management
7. Farm planning and resource optimization through farm management information systems
8. Field operations management using digital tools
9. Soil nutrient monitoring and management using digital solutions
10. Hands-on experience with robotic technologies for agricultural tasks
11. Integration and implementation of sensor technologies for data collection and analysis
12. Optimization of resource use and logistics management through advanced training programs
13. Intermediate and advanced knowledge of regenerative and carbon farming practices
14. Assessment of climate risks and implementation of adaptation strategies in agriculture
15. Crop modeling, simulation techniques, and relevant software applications
16. Sustainable water and energy management practices
17. Principles of soil health management and nutrient management techniques
18. Understanding and application of national and international environmental policies in agriculture
19. Corporate social responsibility practices and sustainability reporting
20. Identification and implementation of renewable energy systems suitable for agricultural operations

