



Module 1 – Foundations of Sustainable Agri-Food Systems & Circular Economy

References / Resources

Youtube Video Links:

Lesson B

- [The Story of The Big Food Redesign](#)
-  Regenerative agriculture in action: Wood Farm, Wiltshire

Lesson C

-  The Story of The Big Food Redesign

General Module References

1. USDA – Food Loss & Waste Resources for Schools
 - <https://www.usda.gov/foodlossandwaste/schools>
Data tables and lesson ideas that fit the cafeteria-audit lab
2. Ellen MacArthur Foundation – Circular Design for Food
 - [A guide to using circular design for food to build business resilience](#)
Practical guide and video on closing nutrient loops
3. Bokashi Process Page
 - [LabtoFarm](#)
Step-by-step recipe, EM bran calculator, and greenhouse trial results.
4. Biochar in Agriculture
 - [LabtoFarm](#)
Tin-can kiln tutorial, porosity images, and citrus seedling data.
5. FAO–Save Food Global Initiative site and the Infographics
 - [Infographic - Make#NotWasting a way of life](#)
Global overview onto food waste, and food processing
6. Cornell Waste Management Institute
 - [Health and Safety Guidance for Small Scale Composting](#)
Brief guide on small-scale composting safety
7. Brewers' Association
 - [Cultivation of gourmet mushrooms using brewer's spent grain](#)
SARE – Spent-Grain-to-Mushroom factsheet (PDF)
8. NIOSH School Chemistry Laboratory Safety Guide (secondary edition)
 - [School Chemistry Laboratory Safety Guide](#)
Comprehensive safety guide for high-school chemistry labs outlining teacher responsibilities

Lesson A – Why Food Systems Matter: Planetary Boundaries & SDGs

1. Sustainable Food Systems
 - [Promoting sustainable food and food citizenship through an adult education leisure experience](#)
Covers definitions and startup needs.
2. The 3 Principles of Sustainable Food Systems
 - [Future Implications for Animal Production: A Perspective on Sustainable Livestock Intensification](#)
Discussing the three principles of sustainable food systems and examples
3. Planetary Boundaries: Earth's Safe Space
 - [Responding to the greatest challenges? Value creation in ecological startups](#)
How mission-driven ventures create value by tackling environmental challenges.
4. Food Systems = Massive Footprint

- [Planetary boundaries](#)
Explains the nine Earth-system limits and current status.
- 5. Burger supply-chain footprint (teaching example)
- [Supply Chain 101: What Happens When Our Food Supply Is Disrupted by a Pandemic?](#)
Links food choices to multiple UN SDGs via a “one plate, many goals” framing
- 6. Sustainable [food] Development Goals (SDGs)
- [Food and the circular economy – deep dive](#)
Landmark report on closing nutrient and material loops in urban food systems

Lesson B – From Linear to Circular: Rethinking Food Production

1. Circular Economy
 - [Measurement and reporting for the circular economy](#)
Towards circular economy outcomes is a key driver in the transition to the circular economy
2. Rethinking Farming with Nature
 - [Regenerative agriculture—agroecology without politics?](#)
Covers definitions of agroecology and regenerative agriculture
3. Valorization of Food Waste as Animal Feed
 - [Valorization of Food Waste as Animal Feed: A Step towards Sustainable Food Waste Management and Circular Bioeconomy](#)
Real world examples of Sicily’s Citrus Super-Loop
4. Case Study: Applications of citrus peels valorisation in circular bioeconomy
 - [Applications of citrus peels valorisation in circular bioeconomy](#)
Real world examples of citrus peels from an environmental liability to an economic input
5. Case Study: Spent Grain to “Bourbon Shrooms”
 - [Distilleries finding “bourbon shrooms” profitable for spent grains](#)
Real world examples of mushrooms and distilleries being profitable for spent grains
6. Circular Economy for food
 - [City food systems are demonstrating the benefits of a circular economy](#)
Advancing the circular economy transition within their food system

Lesson C – Pathways to Action: Diet, Innovation & Policy

1. Circular Economy for food
 - [City food systems are demonstrating the benefits of a circular economy](#)
Advancing the circular economy transition within their food
2. Dietary Shifts: Beef vs. Beans
 - [Sustainable Diets: What You Need to Know in 12 Charts](#)
Showcasing diet shifts between red meat and plant based foods
3. Plant Based Burger vs. Beef Burger
 - [Life Cycle Assessment of Plant-Based vs. Beef Burgers: A Case Study in the UK](#)
Reducing the environmental effects caused by our carbon footprint
4. The Burger Swap
 - [The State of School Lunch in California](#)
Looking at differences in change can be made for school lunches
5. Innovation: “Redesign” (Entrepreneurial Action)
 - [Beyond Burger vs Beef Burger](#)
Alternative proteins to plant based foods, and regular foods
6. Collective Action (Systems Change)
 - [CITIES AND CIRCULAR ECONOMY FOR FOOD](#)
Incentives for sustainable practices

7. Systems Thinking & Nature as the Ultimate Circular Model

➤ [How does Systems Thinking help Design Thinking?](#)

By revealing interdependencies, root causes, and better problem framing

Recommended Websites for Case Studies:

1. Circle Economy – Circular Food Systems

➤ [Circle Economy](#)

Features the largest online library of circular economy case studies, including many focusing on urban food systems and regenerative practices. Great for exploring real-world innovations and policies

2. WRAP – Food System Case Studies

➤ [Food System Case Study](#)

Offers global examples of circular economy in action, such as the Horizon 2020 AgroCycle project, which uses agri-waste to create biodegradable packaging.

3. Sustainable Food System Innovation Platform (SmartChain-Platform)

➤ [Sustainable Food System Innovation](#)

Includes searchable databases of case studies, initiatives, innovations, practice abstracts, and publications. A versatile hub for diverse agri-food sustainability examples.

4. Ontario Agri-Food Innovation Alliance – Case Studies

➤ [Ontario Agri-Food Innovation Alliance](#)

Showcases real-world impact stories—like animal health labs, dairy innovation, and veterinary capacity programs—in agri-food research and delivery.

5. IFAMR Case Study Library

➤ [INTERNATIONAL FOOD AND AGRIBUSINESS MANAGEMENT ASSOCIATION](#)

A curated academic repository of agri-food case studies covering topics such as cluster development, supply chain innovations, and e-commerce adoption. Especially useful for policy-centered examples.