

NORWEGIAN UNIVERSITY OF LIFE SCIENCES

AGROECOLOGY

Master of Science



What is Agroecology

The academic field that bridges agriculture, nature and society. Agroecology links practice and science in describing, analyzing, and managing complex agroecosystems. We focus on integrating ecology, agriculture, socio-economics, and culture with an ultimate goal of sustaining production, food security, community and environmental health.

CAREER OPPORTUNITIES:

- Farming and food systems advising
- Food quality and food security
- Sustainable animal systems management
- Industry sales and technical support
- Organic conversion and certification
- Resource stewardship and management
- Environmental planning and analysis
- International agriculture projects
- Teaching and research
- Post-graduate study



Why Study Agroecology

As a part of the program in farming and food systems you will:

- Learn how to manage complexity and change
- Link practice with theory in field situations
- Learn communication and facilitation skills
- Develop research ethics and clarify personal values
- Understand production, economic, environmental and social impacts
- Cultivate knowledge across disciplines and professions
- Experience diversity and cultural values



Experiential Learning

“This type of learning enabled me to grow as a person, made me aware of my own competencies and gave me courage to start using these in my thesis work and now also in my professional life.”

(Dorthe Christensen, 2005)

EXPERIENTIAL LEARNING IS:

- Cooperating with key players in the farming and food systems
- Integrating field experience with lectures, group work, and seminars
- Combining methods from natural and social sciences
- Moving education from the classroom to farm and community

PROGRAM STRUCTURE		
YEAR	SEMESTER	CONTENT
0	Spring	Optional introductory course: • The Ecology of Food and Farming Systems (PAE301, 5 credits)
1	Autumn	Core courses: • Agroecology and Farming Systems (PAE302, 15 credits) • Agroecology and Food Systems (PAE303, 15 credits)
1	Spring	Elective courses: Based on an approved individual study plan, taken at UMB or elsewhere*
2	Autumn	Elective courses or Master's thesis
2	Spring	Master's thesis (30 or 60 credits)

***University Partnerships:**

Royal Veterinary and Agricultural University (KVL), Denmark
 Swedish University of Agricultural Sciences (SLU), Sweden
 University of Helsinki, Finland
 University of Tuscia and University of Torino, Italy,
 FESIA, France
 University of Wales, United Kingdom



GLORIA C. ROTOLO
 Researcher, Argentina
 Previous student

“The methodology applied to learning and ground-breaking topics such as visionary thinking were challenging and extremely enriching and pushed me to new places of knowledge...”

CURRENT RESEARCH INTEREST:

- System evaluation and nature – society interactions
- Valuation and identification of ecosystem function and services
- Resource use efficiency in pampas agroecosystems
- Participation and involvement of farmers and local agents to identify and coordinate action lines and identify unique roles

Instructors in Agroecology

The first autumn semester is taught at the Norwegian University of Life Sciences (UMB) in Ås, Norway. The core courses are facilitated by Associate Professor Geir Lieblein and Professor Tor Arvid Breland.



GEIR LIEBLEIN (PhD)
Background in horticulture and food quality, current focus on systems approaches and sustainable food systems.



TOR ARVID BRELAND (PhD)
Background in agronomy and soil microbiology, current focus on systems thinking and agricultural systems design.

NOVA University Network

The NOVA Network includes seven Nordic universities that cooperate for innovative and efficient education research. Some of the key players in the development of the MSc course in Agroecology are:



NADARAJAH SRISKANDARAJAH
(PhD) Royal Veterinary and Agricultural University (KVL)



LENNART SALOMONSSON
(PhD) Swedish University of Agricultural Sciences (SLU)



JUHA HELENIUS
(PhD) University of Helsinki (HU)



CHARLES FRANCIS
(PhD) University of Nebraska-Lincoln (UNL)

Research Topics

MSc thesis projects are co-advised by instructors in agroecology and related fields, and may be one or two semesters (30 or 60 ECTS) in length.

Priorities are given to action research including a systems approach to the following farming and food system topics:

- Efficiency of resource use in crop and animal systems
- Challenges in maintaining habitat and biodiversity
- Preservation of ecosystem services in rural landscapes
- Enhanced nutrient cycling and soil fertility
- Application of ecological economics in the food system
- Impacts of changes in national and EU agriculture support
- Distribution of resources, power, and benefits in the food system
- Food production with an uncertain climate



**DORTHE
CHRISTENSEN**
PhD researcher
KVL, Denmark
Previous student

"The agroecology program binds together learning for knowing and learning for becoming a professional. This is very

different from learning as a specific activity directed towards acquisition of abstract and general knowledge from books."

CURRENT RESEARCH INTEREST:

- Systemic Action Research approaches to meeting the challenge of multifunctionality and its links with the development of rural areas
- Creating local stakeholder networks that are continually learning how to persist
- Achieving long-term mobilisation and stability through joint learning and learning to learn

**NORWEGIAN UNIVERSITY OF
LIFE SCIENCES (UMB)**

AGROECOLOGY

P. O. Box 5003

N-1432 Ås, Norway

Phone: +47 64 96 50 00

Fax: +47 64 96 50 01

E-mail: postmottak@umb.no

www.umb.no

THE STUDENT INFORMATION CENTRE

Phone: +47 64 96 61 00

E-mail: opptak@umb.no/studie

www.umb.no/studie

**NORDIC SCHOOL OF AGROECOLOGY/
ECOLOGICAL AGRICULTURE**

Phone: +47 64 96 56 44

E-mail: geir.lieblein@umb.no

www.agroasis.org



PRODUCTION AND TEXT Andrea Lawseth, Geir
Lieblein, Tor Arvid Breland and Charles Francis
PHOTOS Geir Lieblein, Tor Arvid Breland and Even
Bratberg
GRAPHIC DESIGN Knut Werner Alsén (UMB)
DESIGNCONCEPT Tangram