# Study Guide: Topics in Agricultural Economics for Sustainable Development, 7.5 ECTS, 2024

The course Topics in Agricultural Economics for Sustainable Development covers four current research topics in the field and relate them to sustainable development. The topics are all at the research frontier in agricultural economics and are directly or indirectly related to on-going research projects at the Department of economics, SLU. They are also all very relevant and timely for understanding, studying and analysing current sustainability challenges in the agricultural sector and are highly relevant for the design and implementation of agricultural and food policy. The topics are rotated every time the course is given.

## Implementation 2024

Teachers:
Prof Helena Hansson (responsible for course, examiner)
Dr Anna Edenbrandt
Dr Enoch Owusu Sekyere
Dr Thomas Slijper
Dr Hui Tao

Topics covered:

1. The food consumer behavior (Anna Edenbrandt)
2. Animal health and welfare economics (Enoch Owusu Sekyere)
3. Resilient agricultural systems (Thomas Slijper)
4. Experimental economics to study farmer behaviour and preferences (Hui Tao)

Before introducing and discussing each topic, the course provides an overview of current sustainability challenges facing the agricultural and food sector. Following this, each topic is introduced one at a time by covering the following items:

1. Introduction to the topic, including important questions asked in the topic and how the topic relates to, and contributes to the understanding and study of, ongoing sustainability challenges in the agricultural sector;
2. Central theoretical assumptions in the topic. Discussion and critical reflection about the assumptions;
3. Central methodological approaches in the topic. How are research questions typically approached within the topic?

The review of each topic is based on a set of 5 – 7 central academic papers that constitute the main readings for the course (see below for a full reading list).

## Examination

Examination is done through the following:

* Active participation in mandatory seminars (see the schedule for further details). Active preparations are mandatory for each follow-up seminar (see below).
* Written term paper
* Written exam

## Follow-up seminars

The review of each topic is followed by a follow-up seminar; the course contains of a total of four follow-up seminars. The purpose of the follow-up seminars is to enable discussion about central papers in each topic and how they contribute to tackling current challenges in agriculture.

In preparation to the follow-up seminars, each student should:

1. Summarize the main ideas of each paper indicated in the reading list for each topic. (about 1/2 A4-page per paper)
2. Reflect on the usefulness of the topic in contributing to solving current sustainability challenges in agriculture, including which challenges can be tackled and not. (about 1/2 – 1 A4-page in total)
3. Three students per seminar will be asked to prepare a 10 – 15 minutes presentation of one paper each.

The follow-up seminars consists of three modules:

1. Presentation of the three selected papers.
2. Discussion in small groups about the benefits and limitations of the topic.
3. Discussion in class.

The written seminar assignments must be uploaded to Canvas before the seminar.

## Written exam

A brief written exam, based on the topics covered in the course.

## Term paper

During the course, each student will prepare an individual term paper in the form of a research proposal related to any of the topics covered in the course. The research proposal should consist of the following parts:

1. General introduction to the topic, problem formulation, aim and research question(s).
2. Brief overview of related literature.
3. Suggested approach/method
4. References

The research proposal an excellent opportunity to formulate an idea to explore further in the master thesis.

## Grading criteria

To obtain grade “3”, the student should be able to:

## -understand, summarize and discuss current research themes in agricultural economics- critically analyze how current research themes in agricultural economics contribute to solving current problems within the food system, with a focus on sustainability challenges- propose and motivate a research question, including methodological approach in agricultural economics, with relevance to sustainability challenges within the food system.

To obtain grade “4” the students should be able to demonstrate good knowledge and skills in relation to the requirements for grade “3”.

To obtain grade “5” the students should be able to demonstrate very good knowledge and skills in relation to the requirements for grade “3”.

The exams will be graded, using the following intervals: Grade “3”: at least 60% of the total points at the exam; grade “4”: at least 75% of the total points at the exam; grade “5”: at least 90% of the total points at the exam.

The term papers will be graded, using the following intervals: fail, pass and pass with distinction using the learning outcomes of the course as a basis for the grading.

**The final grade at the course is determined according to the following:**

Grade “3”: Exam: grade 3, term paper: at least pass, seminars: passed seminar assignments and active participation in mandatory seminars.

Grade “4”: Exam: grade 4, term paper: at least pass, OR written exam grade 3 and term paper pass with distinction. Seminars: passed seminar assignments and active participation in mandatory seminars.

Grade “5”: Exam: grade 5, term paper: pass with distinction, seminars: passed seminar assignments and active participation in mandatory seminars.

Grade “4” and “5” can only be obtained at the first exam and the first re-exam offered by SLU.

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| Topics in agricultural economics for sustainable development, NA01972024-11-01 – 2025-01-19 |  Preliminary schedule *version 2024 05 02* |  |  |
|  |  |  |  |  |  |  |  | Teacher | Room |
| 04 nOV | Monday | 10.15-12.00 | Course introduction, future scenarios |  | Helena Hansson | *Grupprum 10, 11 VHC hus 5* |
| 05 nOV | Tuesday | 9.15-12.00 | Topic 1: The food consumer behaviour |  | Anna Edenbrandt | Zoom |
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| 08 Nov | Friday | 10.15-12.00 | Follow-up seminar: Topics 1\* |  | Anna Edenbrandt | Zoom |
| 11 Nov | Friday | 13.15 - 15.00 | Seminar: Ideas for term paper\* |  |  | Helena Hansson | *Grupprum 10, 11 VHC hus 5* |
|  |  |  |
| 13 NOV | Wednesday | 9.15-12.00 | Topic 2: Animal health and welfare economics |  | Enoch Owusu Sekyere | *Grupprum 10, 11 VHC hus 5* |
|  |  |  |  |  |  |  |  |  |  |
| 18 NOV | Monday | 10.15-12.00 | Follow-up seminar: Topic 2\* |  |  | Enoch Owusu Sekyere | *Grupprum 10, 11 VHC hus 5* |
| 20 Nov | Wednesday | 9.15-12.00 | Introduction: Topic 3: Resilient agricultural systems | Thomas Slijper | *Grupprum 10, 11 VHC hus 5* |
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| 25 NOV | Monday | 10.15-12.00 | Follow-up seminar: Topic 3\* |  |  | Thomas Slijper | *Hebbe, Ultunabiblioteket* |
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| 27 nov | Wednesday | 9.15-12.00 | Introduction: Topic 4: Experimental methods to study farmer behaviours and preferences |  | Hui Tao | *Grupprum 10, 11 VHC hus 5* |
| 2 DeC | Monday | 10.15-12.00 | Follow-up seminar: Topic 4 \* | Hui Tao | *Sal C212, Biocentrum* |
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| 10 DEC | Tuesday | 08.00-11.00 | Exam |  | Tentamenssal 2 |
|  |  |  |
| 13 DEC | Friday | 13.15-16.00 | Term paper: Advisory session 1\* |  |  | Helena Hansson | *C212, Biocentrum* |
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| 14 Jan | Tuesday | 8.15 – 12.00 | Presentation and discussion: Term paper\* |  | Helena Hansson | *Grupprum 10, 11 VHC hus 5* |
|  |  |  |  |  |  |  |
| 29 JAN | Wednesday | 13.00-16.00 | Re-exam |  |  |  |  |  | Tentamenssal 2 |

Activities indicated with a star (\*) are mandatory.

# Reading list 2024

# Introductory lecture

FAO (2018). The future of food and agriculture – alternative pathways to 2050. Rome.
http://www.fao.org/publications/fofa/en/

Not mandatory podcast about the future of meat: *Meat the four futures* by Table debates. The podcast is available where you usually listen to podcasts.

# Topic 1: The food consumer behaviour

1. Denver, S., Christensen, T., Nordström, J., 2021. Consumer preferences for low-salt foods: a Danish case study based on a comprehensive supermarket intervention. Public Health Nutr. 24, 3956–3965. <https://doi.org/DOI>: 10.1017/S1368980021002056
2. Edenbrandt, A. K., and Lagerkvist, C.-J. (2024). Can gene-editing accelerate the protein shift? Consumer acceptance of an upcycled meat-substitute. *Food Policy* *126*: 102665.
3. Edenbrandt, A.K., Nordström, J., 2023. The Future of Carbon labelling - factors to consider. Agric. Resour. Econ. Rev. 1–17. [https://doi.org/doi:10.1017/age.2022.29](https://doi.org/doi%3A10.1017/age.2022.29)
4. Faccioli, M., Law, C., Caine, C.A., Berger, N., Yan, X., Weninger, F., Guell, C., Day, B., Smith, R.D., Bateman, I.J., 2022. Combined carbon and health taxes outperform single-purpose information or fiscal measures in designing sustainable food policies. Nat. Food 3, 331–340. <https://doi.org/10.1038/s43016-022-00482-2>
5. Just, D.R., Byrne, A.T., 2019. Evidence-based policy and food consumer behaviour: how empirical challenges shape the evidence. Eur. Rev. Agric. Econ. 1–23.
6. Smed, S., Edenbrandt, A.K., Jansen, L., 2019. The effects of voluntary front-of-pack nutrition labels on volume shares of products : the case of the Dutch Choices. Public Health Nutr. <https://doi.org/10.1017/S1368980019001423>

# Topic 2: Animal health and welfare economics

1. Owusu-Sekyere, E., Hansson, H., Telezhenko, E., Nyman, A.-K. and Ahmed, H. (2023), "Economic impact of investment in animal welfare–enhancing flooring solutions – Implications for promoting sustainable dairy production in Sweden", *British Food Journal*, Vol. 125 No. 12, pp. 4415-4444. <https://doi.org/10.1108/BFJ-06-2022-0523> .
2. Owusu-Sekyere, E., Hansson, H., & Telezhenko, E. (2022). Use and non-use values to explain farmers’ motivation for the provision of animal welfare. *European Review of Agricultural Economics*, *49*(2), 499–525. <https://doi.org/10.1093/erae/jbab012>
3. Guy, J. H., Cain, P. J., Seddon, Y. M., Baxter, E. M., & Edwards, S. A. (2012). Economic evaluation of high welfare indoor farrowing systems for pigs. *Animal Welfare*, *21*(SUPPL. 1), 19–24. <https://doi.org/10.7120/096272812X13345905673520>
4. Bornett, H. L. I., Guy, J. H., & Cain, P. J. (2003). Impact of animal welfare on costs and viability of pig production in the UK. *Journal of Agricultural and Environmental Ethics* 16: 163–186, 2003. [https://doi.org/10.1023/A:1022994131594](https://doi.org/10.1023/A%3A1022994131594)
5. Ahmadi, V., Stott, A. W., Baxter, E. M., Lawrence, A. B., & Edwards, S. A. (2011). *Animal welfare and economic optimisation of farrowing systems*. Animal Welfare, Volume 20, Number 1, February 2011, pp. 57-67(11). <https://doi.org/10.1017/S0962728600002438>
6. Jensen, T. B., Baadsgaard, N. P., Houe, H., Toft, N., & Østergaard, S. (2008). The association between disease and profitability in individual finishing boars at a test station. *Livestock Science*, *117*(1), 101–108. <https://doi.org/10.1016/j.livsci.2007.12.003>

# Topic 3: Resilient agricultural systems

## Why does resilience matter?

1. Darnhofer, I. (2021). Resilience or how do we enable agricultural systems to ride the waves of unexpected change? *Agricultural Systems*, *187*, 102997. <https://doi.org/10.1016/j.agsy.2020.102997>

Darnhofer (2021) is a great introduction to why resilience matters.

## What is resilience?

1. Meuwissen, M. P. M., Feindt, P. H., Spiegel, A., Termeer, C. J. A. M., Mathijs, E., Mey, Y. de, Finger, R., Balmann, A., Wauters, E., Urquhart, J., Vigani, M., Zawalińska, K., Herrera, H., Nicholas-Davies, P., Hansson, H., Paas, W., Slijper, T., Coopmans, I., Vroege, W., … Reidsma, P. (2019). A framework to assess the resilience of farming systems. *Agricultural Systems*, *176*, 102656. <https://doi.org/10.1016/j.agsy.2019.102656>
2. Meuwissen et al. (2019) describe a five-stage framework that can be used to assess the resilience of farming systems. Central are the resilience capacities of robustness, adaptability, and transformability.
3. Duchek, S. (2020). Organizational resilience: A capability-based conceptualization. *Business Research*, *13*(1), 215–246. <https://doi.org/10.1007/s40685-019-0085-7>

Duchek (2020) introduces an additional resilience capacity: anticipation. She argues that time references matter: (i) anticipation happens before an unexpected event, (ii) coping (robustness in Meuwissen et al. (2019)) happens during an unexpected event, and (iii) adaptation (adaptability and transformability in Meuwissen et al. (2019))

## How to assess resilience?

1. Slijper, T., de Mey, Y., Poortvliet, P. M., & Meuwissen, M. P. M. (2022). Quantifying the resilience of European farms using FADN. *European Review of Agricultural Economics*, *49*(1), 121–150. <https://doi.org/10.1093/erae/jbab042>

Slijper et al. (2022) attempt to empirically measure the resilience capacities of robustness, adaptation, and transformation for European farms.

1. Srinidhi, A., Werners, S. E., Dadas, D., D’Souza, M., Ludwig, F., & Meuwissen, M. P. M. (2023). Retrospective climate resilience assessment of semi-arid farming systems in India. *International Journal of Water Resources Development*, 1–26. <https://doi.org/10.1080/07900627.2023.2207680>

Srinidhi et al. (2023) are among the first to adopt Duchek’s (2020) framework.

Topic 4: Experimental methods to study farmer behaviours and preferences

1. Aker, J. C. (2011). Dial “A” for agriculture: A review of information and communication technologies for agricultural extension in developing countries. *Agricultural Economics*, *42*(6), 631-647. <https://doi.org/10.1111/j.1574-0862.2011.00545.x>
2. Olum, S., Gellynck, X., Juvinal, J., Ongeng, D., & De Steur, H. (2020). Farmers’ adoption of agricultural innovations: A systematic review on willingness to pay studies. *Outlook on Agriculture*, 49(3), 187-203. <https://doi.org/10.1177/0030727019879453>
3. Blasch, J., Van Beukering, P., Munster, R., Fabiani, S., Nino, P., & Vanino, S. (2022). Farmer preferences for adopting precision farming technologies: A case study from Italy. *European Review of Agricultural Economics*, 49(1), 33-81. <https://doi.org/10.1093/erae/jbaa031>
4. Oyinbo, O., & Hansson, H. (2024). Understanding dairy farmers' trade-offs between environmental, social and economic sustainability attributes in feeding systems: The role of farmers' identities. *Journal of Agricultural Economics*, 75(3), 869-888. <https://doi.org/10.1111/1477-9552.12588>
5. Alpizar, F., Carlsson, F., & Naranjo, M. A. (2011). The effect of ambiguous risk, and coordination on farmers' adaptation to climate change — A framed field experiment. Ecological Economics, 70(12), 2317-2326. <https://doi.org/10.1016/j.ecolecon.2011.07.004>
6. Campenhout, B. V., Spielman, D. J., & Lecoutere, E. (2020). Information and Communication Technologies to Provide Agricultural Advice to Smallholder Farmers: Experimental Evidence from Uganda. *American Journal of Agricultural Economics*, 103(1), 317-337. <https://doi.org/10.1002/ajae.12089>.