The impact of COVID-19 on grain sector in Estonia

Anne Põder, Ants-Hannes Viira, Rando Värnik

Chair of Rural Economics, Institute of Agricultural and Environmental Sciences at Estonian University of Life Sciences

Project „Ensuring the security of supply in the supply chains of food, essential goods, personal protective equipment and water in Estonia (VARUST)" was financed by RITA program of the Estonian Research Council with co-financing from European Regional Development Fund.

RITA

Euroopa Liit
Euroopa Regionaalarengu Fond

Eesti tuleviku heaks

www.emu.ee
Eesti Maaülikool
Estonian University of Life Sciences

Background

- The COVID-19 pandemic in 2020 has exposed the agri-food systems to unprecedented stresses [1]
- The main concerns have been the related to labor availability, industry shutdowns, input availability, transport and logistics bottlenecks, shifts in retail channels and in consumption patterns [1-5]
- Income and job losses, soaring food prices in 2020 and 2021, the uncertainties related to the global markets and the continuation of create concerns about food security [5-7]

- The production of staple foods such as grains and the resilience of their supply chains are of particular interest
- In 2020- 2021, high global prices and high global demand for grain despite large crops [9]
- Estonian grain production has been going through several changes in the last decade
- The grains have vital role in ensuring food security at the time of crisis

Aim

- Paper focuses on the impact of COVID-19 on Estonian grain sector
  - What have been the main trends?
  - How self-sufficient is Estonia in grain production?
  - How did COVID-19 impact grain supply chain stakeholders?

Methods

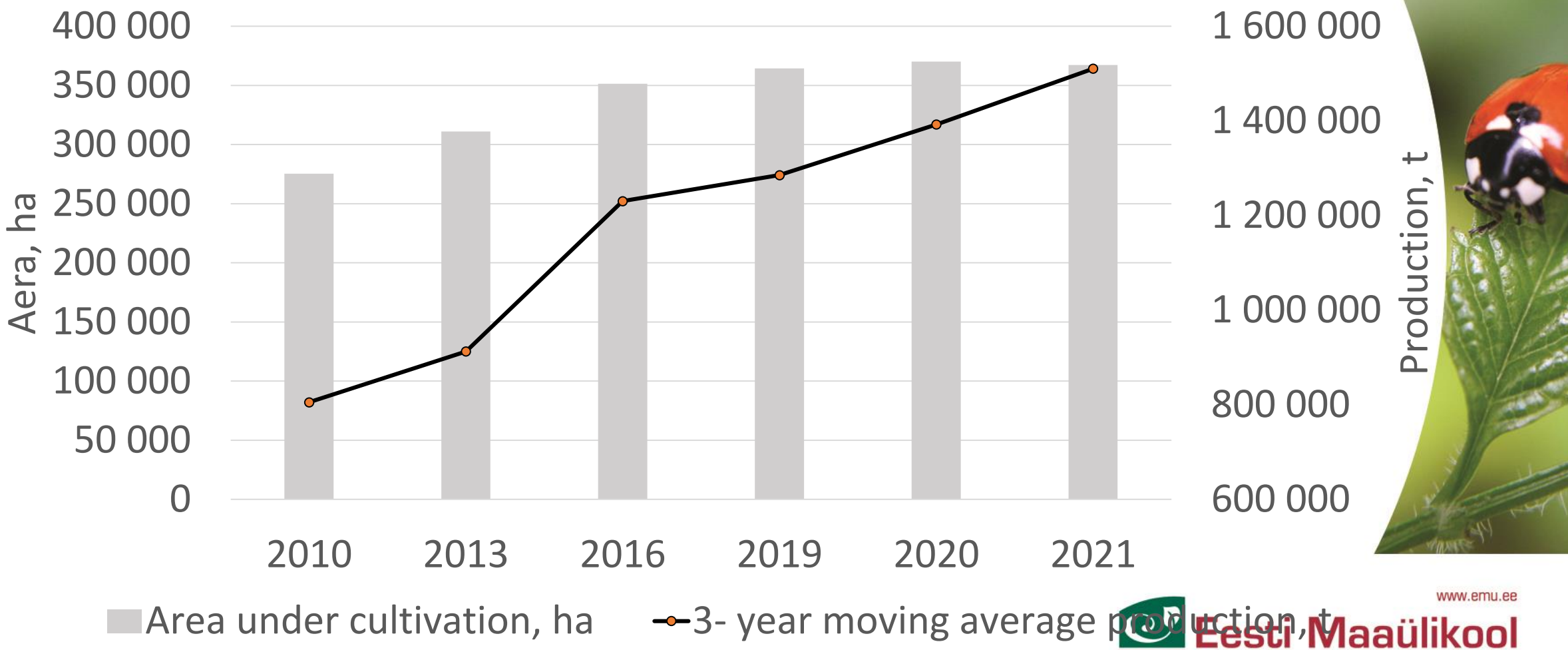
Mixed methods

- Estonian grain production data
- Self-sufficiency ratio (SSR) for wheat, rye and barley

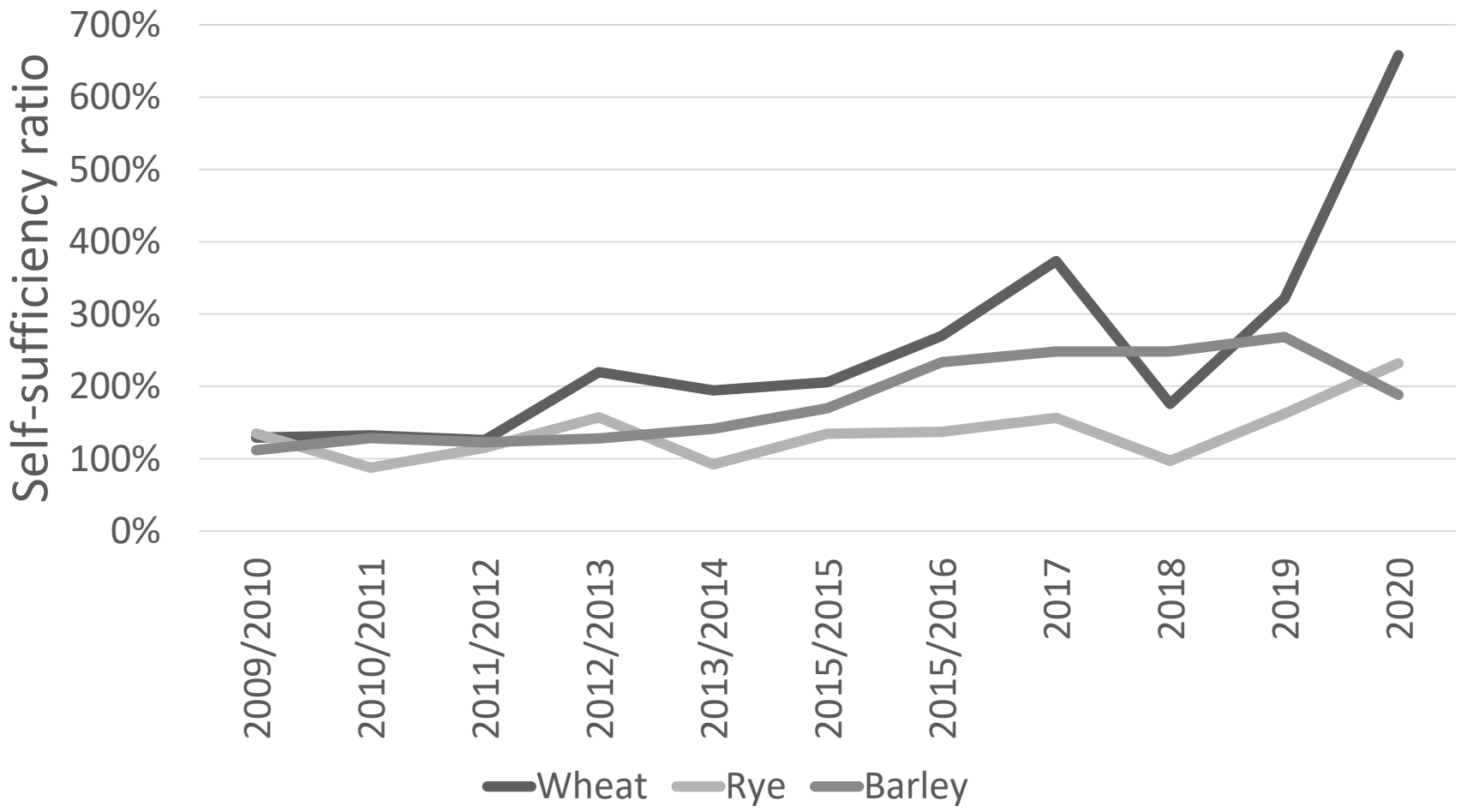
  SSR = Production x 100/(Production + Import – Export) [8, 12]

- Qualitative data from 16 semi-structured interviews and 1 focus group with grain farmers and export cooperatives, farm input suppliers, feed industry, flour and milling industry, retail grocery chain.

Estonian grain sector



www.emu.ee
Eesti Maaülikool
Estonian University of Life Sciences



www.emu.ee
Eesti Maaülikool
Estonian University of Life Sciences

COVID-19 impacts on grain supply chain stakeholders

	Input suppliers	Grain farmers	Grain exporters/cooperatives
Preliminary restrictions in March 2020- June 2020	Rearrangement of work activities, incl remote work Delays in deliveries Foreign suppliers' shutdown Increase in demand and shortage of PPE and disinfectants	Limited impact	No impact
Long term impacts	Oversupply of PPE Price increase of inputs Input delivery delays	Input delivery delays Increase in input prices Increase in energy prices High grain prices High global demand	Rearrangement of operating procedures Considerable increase in maritime transport costs Container congestion Increase in energy prices High grain prices High global demand

	Feed industry	Flour and milling industry	Retail grocery chains
Preliminary restrictions in March 2020- June 2020	Disruptions in delivery of certain inputs Change in shipping methods of some inputs Rearrangement of work activities	Disruptions because of movement restrictions on borders Unable to meet the increased demand in the retail Lack of technical support from foreign supplier Rearrangement of work activities for office workers COVID-19 infections Shortage of packaging materials	Short term panic buying of staple good followed by drop in their demand PPE shortage Enforcement of distancing rules and restrictions in retail shops Reorganization of operations COVID-19 infections Increase in e-shopping
Long term impacts	Change of suppliers Lack of supply for certain inputs Increase in input prices Increase in energy prices	Rearrangement of operating procedures for truck drivers Increase of labor supply Technical support from foreign suppliers Increase in input prices Increase in energy prices Delays in delivery times	Continued work rearrangement Strong demand Increase of labor supply Distancing measures Delays in delivery times Change of suppliers Price increases

Conclusions

- Grain production has become one of the most prominent sectors of Estonian agriculture and a significant export commodity.
- Growth in production as readjustment and reaction to the crises in animal husbandry
- Favorable global market demand and prices
- The first years of pandemic, 2020- 2021 has been the period of record production and largest area under grains since the beginning of the 1990ies. Response strategies typically same.
- The initial effects on the pandemic on the grain farmers were very limited and grain supply chains suffered little disruptions, results similar to those demonstrated by [1,9].

- Global demand for grains remains high and the pandemic increases demand for staple goods [1]
- Stakeholders have adapted to the pandemic and the availability of food has not been affected as demonstrated by [6]
- High self-sufficiency ratio demonstrates that Estonia produces enough grain to feed its population
- The biggest concerns are related to the price of farm inputs and energy, increase in delivery times and shipping costs
- Processing industry as the potential bottleneck at the time of more severe crises
- Expectation that the grain production levels in Estonia will remain high in the coming years

Acknowledgement

- The project „Ensuring the security of supply in the supply chains of food, essential goods, personal protective equipment and water in Estonia (VARUST)” financed thorough RITA programme that is supported by the European Regional Development Fund.
- RITA programme of the Estonian Research Council (ETAg) is focused on funding socio-economical applied research.

RITA

Euroopa Liit
Euroopa
Regionaalarengu Fond

Eesti
tuleviku heaks

www.emu.ee
Eesti Maaülikool
Estonian University of Life Sciences