Latvia University of Life Sciences and Technologies

Fertilization of sea buckhorn in organic farming

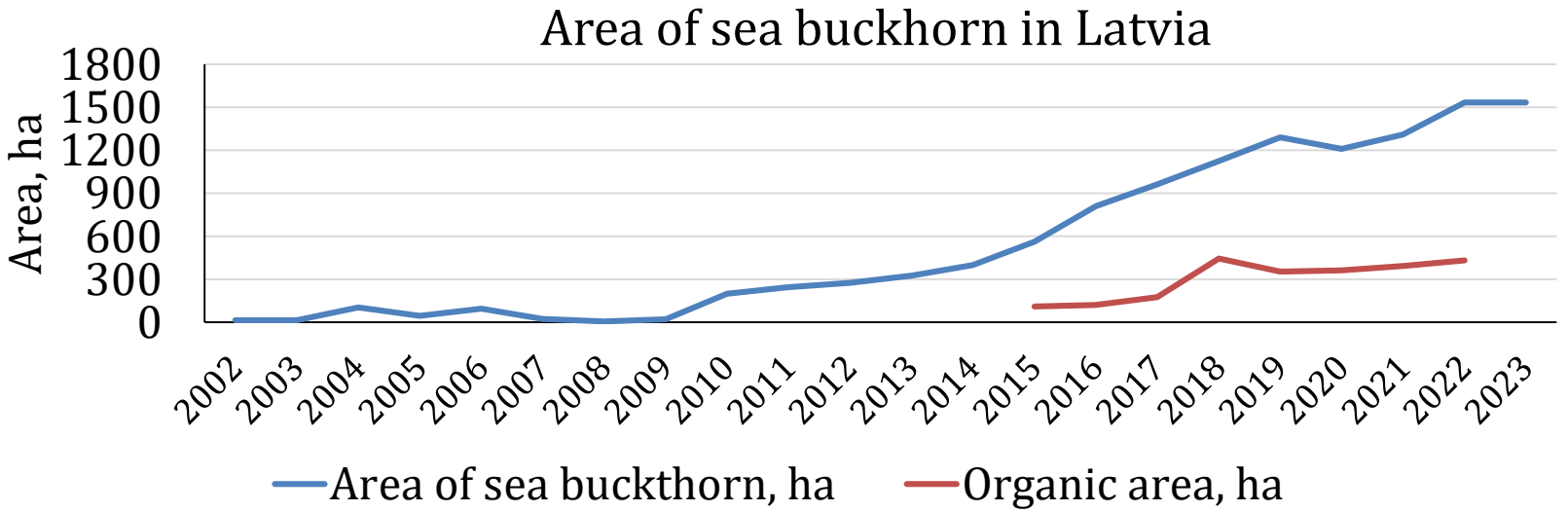
Adrija Dorbe, Madara Misule, Dace Siliņa

Latvia University of Life Sciences and Technology, Faculty of Agriculture and Food Technology

Introduction

In Latvia, the area of sea buckthorn has grown rapidly in the last ten years, organic plantings make up 28-30% of the total area of sea buckthorn.

Lack of mineral fertilizers, which are allowed to be used in organic farms, creating the need to look for the use of different organic fertilizers



Project No. 22-00-A01612-000001 *"Organic agriculture compatible technological solutions for growing sea buckthorn, accounting for three main aspects: sea buckthorn fruit fly control, fertilization and irrigation in commercial sea buckthorn plantations."*

NACIONĀLAIS ATTĪSTĪBAS PLĀNS 2020

EUROPEAN UNION
EUROPE INVESTING IN RURAL AREAS
Agricultural Fund for Rural Development

Latvia University of Life Sciences and Technologies

Fertilization of sea buckhorn in organic farming

Adrija Dorbe, Madara Misule, Dace Siliņa

Latvia University of Life Sciences and Technology, Faculty of Agriculture and Food Technology

Materials and methods

Variety *'Mary' (one-year-old seedling planted in 2020).*

Soil*: silty loam soil, pH_{KCl} – 4.8-5.0, $C_{(total)}$ – 1.77-1.95 %, available P_2O_5 - 188-198 mg kg^{-1}, K_2O 188-198 mg kg^{-1}.*

The trial carried out in 2022.

Fertilization variants*:*

(1) control – unfertilized,

(2) mineral fertilizer,

(3) granulated manure compost,

(4) liquid manure.

Evaluation *of fertilizers effect: vegetative growth of the tree trunk (mm) and yield of berries.*

Berries harvested *by cutting plant branches, about 50% of the berry mass, leaving vegetative growth for next year's yield.*

Fertilizer used in organic farm

(2)

PHYSIO NATUR PKS 41 → PHYSIO +

(3)

(4)

Project No. 22-00-A01612-000001 *"Organic agriculture compatible technological solutions for growing sea buckthorn, accounting for three main aspects: sea buckthorn fruit fly control, fertilization and irrigation in commercial sea buckthorn plantations."*

NACIONĀLAIS ATTĪSTĪBAS PLĀNS 2020

EUROPEAN UNION
EUROPE INVESTING IN RURAL AREAS
Agricultural Fund for Rural Development

Latvia University of Life Sciences and Technologies

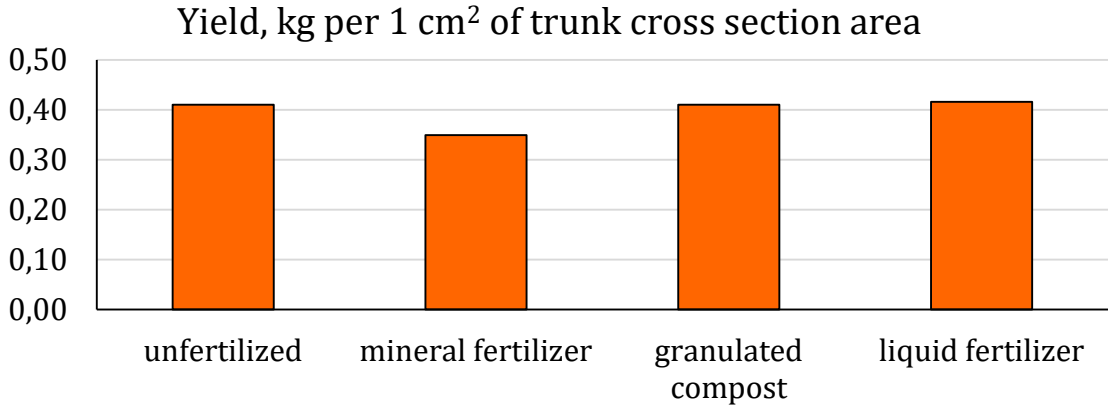
Fertilization of sea buckhorn in organic farming

Adrija Dorbe, Madara Misule, Dace Siliņa

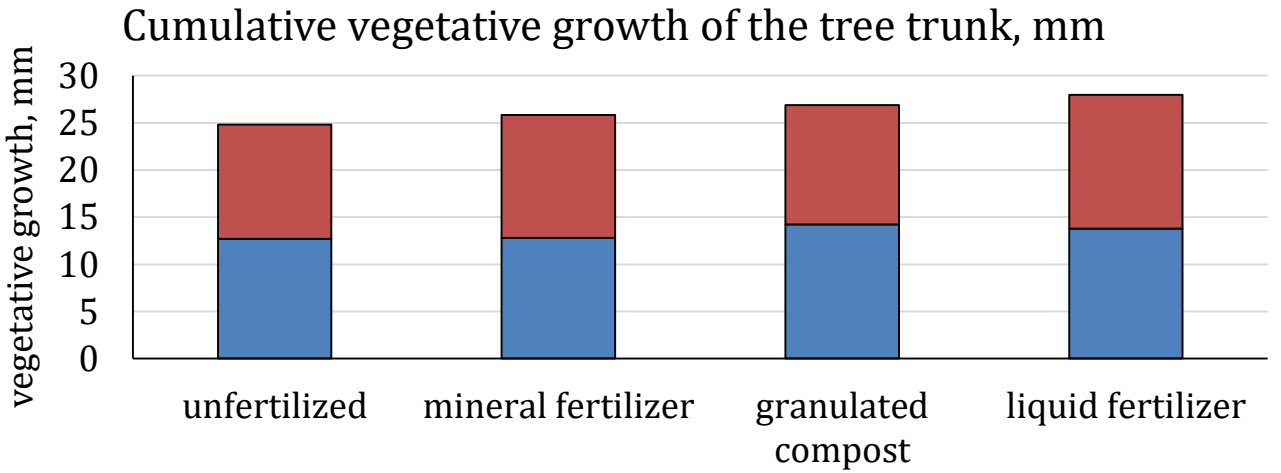
Latvia University of Life Sciences and Technology, Faculty of Agriculture and Food Technology

Results

*The average **yield of berries** was 6.20 – 7.25 kg berries per tree and differed insignificant between the variants ($p_{0.05}$=0,45).*



Vegetative growth of tree trunk. *The average vegetative growth of the tree trunk was 12,11 - 14,23 mm. Cumulative vegetative growth in two years (2022 spring to 2023 autumn) showed that all types of fertilizers on the vegetative growth of trunk gave positive effect, but it was not statistically significant ($p_{0.05}$=0,51 in 2022, and $p_{0.05}$=0,58 in 2023).*



Conclusion

organic fertilizers have an equivalent effect as mineral fertilizer, it provided plants with the necessary nutrients over two years.

Project No. 22-00-A01612-000001 *"Organic agriculture compatible technological solutions for growing sea buckthorn, accounting for three main aspects: sea buckthorn fruit fly control, fertilization and irrigation in commercial sea buckthorn plantations"*

NACIONĀLAIS ATTĪSTĪBAS PLĀNS 2020

EUROPEAN UNION
EUROPE INVESTING IN RURAL AREAS
Agricultural Fund for Rural Development