INSECT POLLINATION ECONOMIC VALUE OF AGRICULTURAL OILSEEDS CROPS IN ROMANIA IN THE PERIOD 2010-2020

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Abstract. *The purpose of this research was to quantify and study the dynamics of the insect pollination economic value, vulnerability rate to pollinators decline, production/consumption ratio and matrix value after pollination loss for Romania's oilseeds crops: sunflower and rape in the period 2011 and 2020. The dependence ratio taken into consideration was 30% for sunflower and 25% for rape and also the average annual producer's price of the seeds was used in Euro/ton. The formulas used in this study are adapted. The results confirmed that insect pollination service had a positive economic impact increasing oilseeds production value in the year 2020 by about Euro 204.96 million in case of sunflower and by Euro 68.85 million in case of rape, summing Euro 273.81 million. The vulnerability rate to pollination decline in oilseeds crops was 28.57% in the year 2020. Production/consumption ratio of oilseeds was higher than 1 in the period 2013-2018, reflecting that in general consumption needs are covered by internal production, imports being rarely required. The matrix value after the pollination loss was below 1 in almost all the years. Finally, insect pollination service, especially provided by bees is very important in Romania for obtaining production gains and a higher seed quality, for increasing farmers income, for maintaining biodiversity, the quality of environment factors and the balance in the ecosystems.*

Keywords: insect pollination economic value, vulnerability rate, oilseeds crops, Romania

13. Introduction

Oilseeds crops are more and more important for their role in human diet, animal feeding, processing industry, energetic sector and from an agronomic point of view [33, 43].

That is why the world oilseeds production increased reaching 600 million MT in 2020, of which soybeans 63.8%, rape seeds 11.7% and sunflower seeds 0.5% [51, 54].

At the world level the main producing countries of sunflower are Ukraine, Russian Federation, Argentina, China and Romania and of sunflower seeds are: Canada, India, China and EU.

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