

STUDY REGARDING THE INFLUENCE OF LIMITING FACTORS UPON DYNAMICS ON SURFACES CULTIVATED WITH WINTER RAPE IN THE LAST FIVE YEARS IN THE WESTERN PLAIN. (ROMANIA)

Dani GROSZ, Valeriu TABARA

Banat's University of Agricultural Sciences and Veterinary Medicine, Faculty of Agricultural Sciences, Timisoara, Aradului Street, no. 119, RO-300645, Romania,

Corresponding author: dadrtn_grosz_daniel@yahoo.com

Abstract: *The effects of global warming on Romanian agriculture and also on the cultures structure like oil seed rape, represents more intensively, especially in the last five years, a real challenge that aims a new approach that is regarding the soil works system, the preparing of germinate layer for a superior management of water in the soil. With all these the cultivator of the future oil seed rape will have to be the brave farmer, opened at new solutions from biotechnologies area, tolerant hybrids at diseases, pests, with good adaptability at hydro stress conditions, tolerant hybrids at efficient herbicides that can assure a combat from the beginning development phases of concurrent weeds. Looking at the cultivated areas with winter rape in the last five years in Timiș county, we can see a lot of changed because of property's structured changed to agricultural areas, in the first time, but to agricultural mentality about the technology of oil seed rape and to the climate changes. Taking in consideration the climatic factors on which the farmer must ply in such a manner to reduce the risks of a failure in oil seed rape culture, must be adopted a system of works for soil with a minimum number of passes, a right away preparing of the soil where the preceding plant is wheat, in such a manner to close the soil capillarity to maintain the water in soil, humidity that with a minimum of precipitations registered after sowing to assure an explosive and uniform east of the culture. Although the oil seed rape culture is very technical, risky due to the climatic conditions, it remains a culture that brings the first money, a culture with an acquisition price in grew in every year, reaching an average price of 0,79 lei/kg in 2007, at 2,2 lei/kg in 2012 and this thing assures it a continued upward trend regarding the surfaces occupied in west of Romania.*

Key words: *limiting factors, surfaces, winter rape.*

INTRODUCTION

Looking at the cultivated areas with winter rape in the last five years in Timiș county, we can see a lot of changed because of property's structured changed to agricultural areas, in the first time, but to agricultural mentality about the technology of oil seed rape and to the climate changes.

The effects of global warming on Romanian agriculture and also on the cultures structure like oil seed rape, represents more intensively, especially in the last five years, a real challenge that aims a new approach that is regarding the soil works system, the preparing of germinative layer for a superior management of water in the soil.

MATERIAL AND METHOD

The aim of this paper is to take in discussion the restrictive factors of rapeseed oil.

The study is based on statistics data from INS and MADR (Agr 2B) between 2007-2012.

RESULTS AND DISCUSSION

From climatic point of view, the seasons are the ones that put the accent on the destructive effects of global warming, so we meet winters transformed in autumn till the first decade of December, winters with few precipitations of any kind (liquid or solid) with extreme low temperatures that come in periods without protective layer of snow, generating lost at the density of autumn oil seed rape, that entered without being enough prepared to resist at freeze, with a delayed vegetation due to the absence of water.

In spring, in change, come big temperatures varieties, with temperatures of over 25^o from the first decade of May, late freezes and the strong winds put a lot pressure on the plants of oil seed rape, that are weakened from winter. Also, on the base of temperatures growth with almost 4,1^o, of changes of multiannual average sums registered (ex: Timis, September 2010 – august 2011 period) in balance with multiannual averages sum, that influences also the culture vegetation period (getting faster at the phase of full maturity) and also the biologic cycle of pests, that in last years registrate a more intense activity, being met 2-3 specific pests in the same attack critic period, that do aggravate the prognosis and warning activities, these being very hard to control and combat. (fig. 1).

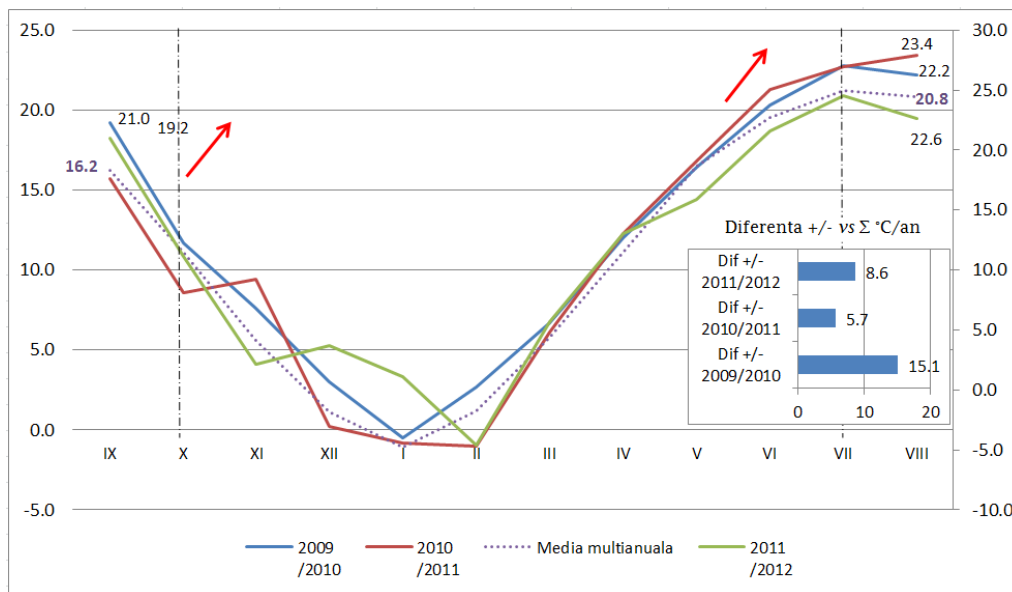


Fig. 1. The evolution of temperature in Timis county between 2009-2012 and differences from sum of degrees versus multiannual average.
Source: Weather station Timisoara

A new challenge of the last years also represents the canicular periods with draught that can be felt much more earlier having an unfavorable effect on insemination, being known the pollen's sensibility at height temperature. And to not be the temperature regime the only more restrictive factor, we observe that in the last years that the pluviometrical regime registered in summers in which excess precipitation periods, usually May-June, are followed by of extremely long periods, from July, August and even September in some places, in which

significant rains can be found only in statistics, conditions in which establishing a oil seed rape culture becomes a challenge. (fig. 2).

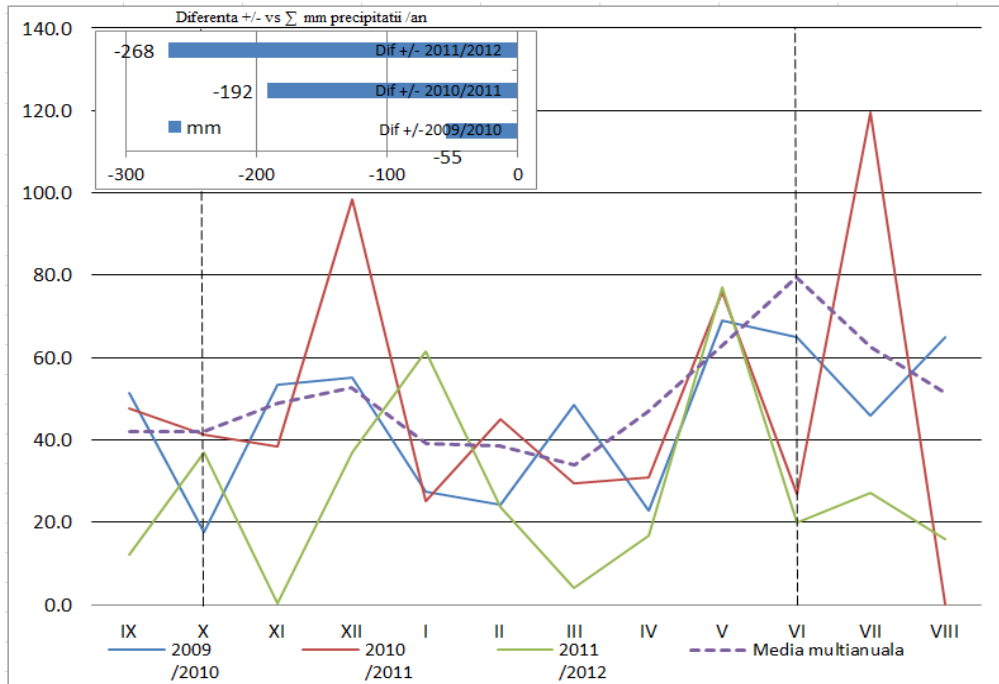


Fig. 2. The evolution of precipitation in Timis county between 2009-2012 and differences from sum of degrees versus multiannual average
Source: Weather station Timisoara.

On these considerations, in many cases, establishing the oil seed rape culture is getting longer till the first decade of October, meeting more weakened cultures by draught (2-3 leaves at the entry in winter), cultures with low density, exposed at infection pressure with concurrent weeds that are more and more better adapted even at these restrictive conditions. Longer warm periods from autumn, without enough water, are not going to assure for the winter cultures an entry in a corresponding vegetation phase. Even if is known that oil seed rape is a very technical culture, at which with homologated protection solutions, in present, in Romania, we can assure integrated protection plans. The pedologic and even atmosphere water deficiency is not the object of these integrated protection plans, still remaining the unpredictable factor at which we must think in the future technologies.

With all these the cultivator of the future oil seed rape will have to be the brave farmer, opened at new solutions from biotechnologies area, tolerant hybrids at diseases, pests, with good adaptability at hydro stress conditions, tolerant hybrids at efficient herbicides that can assure a combat from the beginning development phases of concurrent weeds.

At west region level (BH, AR, TM, CS, HD) in the end of year 2012, the farmers are sustaining that they have sown a total of 19771 ha with autumn rape, in the conditions in which have proposed to sow 30400 ha, although last year the draught have limited the culture at a surface of 5598 ha and assured an average production per country of 1951 kg/ha. (fig. 3).

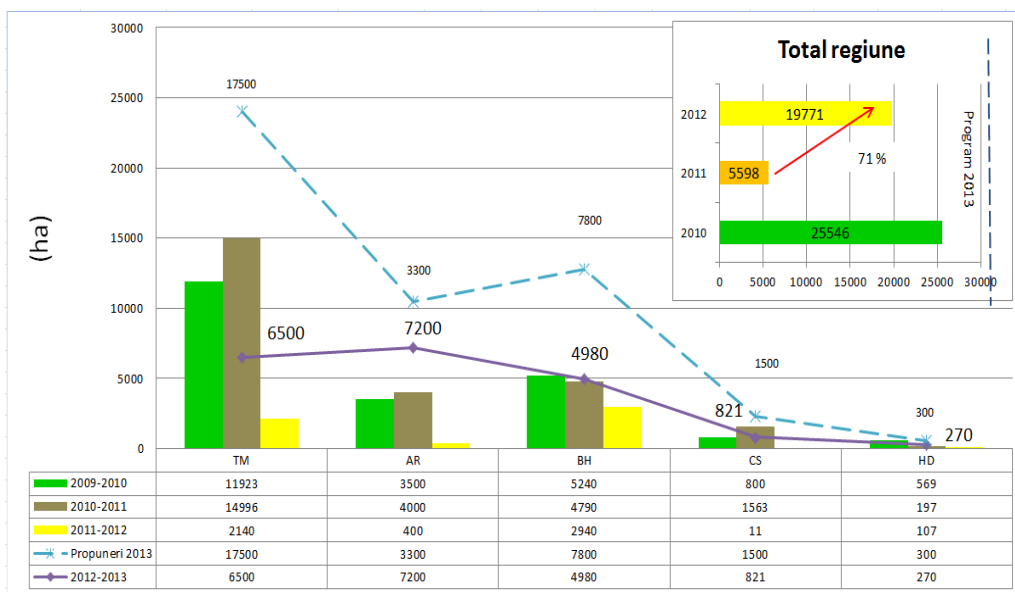
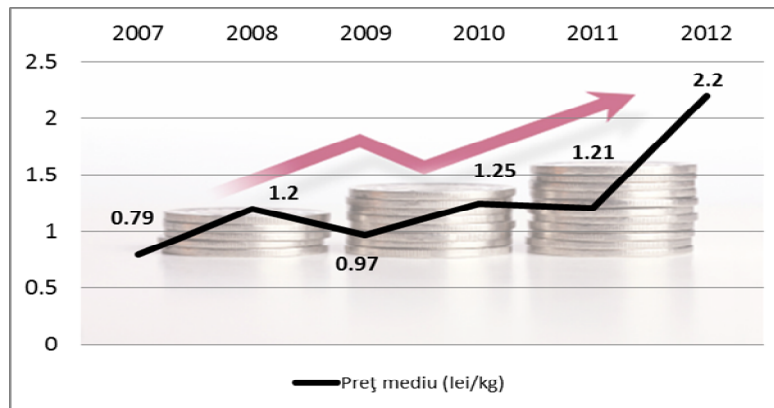


Fig. 3. The evolution of total production of rapeseed oil in Timis county between 2009-2012
Source: Date MADR, AGR 2B, statistical data.

Of course the major factor in the surfaces covered with oil seed rape growth, in 2012, represent high prices for this agricul raw stock.

The oil seed rape culture is very technical, risky due to the climatic conditions, it remains a culture that brings the first money, a culture with an acquisition price in grew in every year, reaching an average price of 0,79 lei/kg in 2007, at 2,2 lei/kg in 2012. (fig. 4).



Source: Date MADR, AGR 2B, statistical data.

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CONCLUSIONS

Taking in consideration the climatic factors on which the farmer must ply in such a manner to reduce the risks of a failure in oil seed rape culture, must be adopted a system of works for soil with a minimum number of passes, a right away preparing of the soil where the preceding plant is wheat, in such a manner to close the soil capillarity to maintain the water in soil, humidity that with a minimum of precipitations registered after sowing to assure an explosive and uniform east of the culture.

Although the oil seed rape culture is very technical, risky due to the climatic conditions, it remains a culture that brings the first money, a culture with an acquisition price in grew in every year, reaching an average price of 0,79 lei/kg in 2007, at 2,2 lei/kg in 2012 and this thing assures it a continue upward trend regarding the surfaces occupied in west of Romania.

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