RESULTS ABOUT SUNFLOWER YIELD COMPONENTS IN SOUTH ROMANIA AT DIFFERENT PLANTING PATTERNS

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Introduction
The yield components of the head are those elements that are contributing to the elaboration of yield of achenes and that are depending on different growing factors. Due to increasing interplant competition for light and other factors, the yield of achenes of individual plants is expected to decrease with increasing plant density (Diepenbrock et al., 2001). Different planting patterns sometimes produced higher yield, but not always (Zarea et al., 2005). Also, each sunflower hybrid has a particular type of interaction with growth factors. All this aspects underline the importance of studying these components.

Materials and Methods
Researches were performed in field experiments in 2013, in two locations from South Romania (Fundulea and Moara Domneasca). In each location, four sunflower hybrids (Pro 111, LG 56.62, P64LE19, Pro 953) were studied under three distances between rows (75 cm, 50 cm and strips of 75/45 cm) and three plant populations (50000, 60000 and 70000 plants per hectare). The field experiments from Fundulea were located on chernozem soil, while those from Moara Domneasca on reddish preluvosoil. The sum of rainfall between September 2012 and August 2013 were of 700.6 mm at Fundulea and of only 288.0 mm at Moara Domneasca. In each location and from each variant a number of three sunflower heads were analyzed for determining the yield components.

Results and Discussion
On chernozem soil, the distances between rows of 75 cm and strips of 75/45 cm determined the highest values of the yield components except for the weight of 1,000 seeds, while on reddish preluvosoil the smallest values were registered at 75 cm. All values of yield components have decreased with increasing plant population, especially on reddish preluvosoil which was associated with the low sum of rainfall in 2013. The yield components are different for each hybrid, the values being smaller on reddish preluvosoil. The hybrids Pro 111 and Pro 953 are characterized by large heads and high number of seeds per head, while hybrids LG 56.62 and P64LE19 are characterized by high values of grain weight per head and weight of 1,000 seeds (Figure 1).

Conclusions
Whether increasing of plant population decreases the values of yield components, the distance between rows has different effect according to soil, rainfall and hybrid.
Figure 1. Head yield components according to distance between rows, plant population and sunflower hybrid under different soil conditions from South Romania (chernozem and reddish praluvo9oil).

Acknowledgements
The researches carried out for the elaboration of the present paper were financed by Romanian Program "Partnerships for Priority Domains", project PN-II-PT-PCCA-2011-3.2-1778 "OPTimization of BIOMass and Approach to Water conservation" (OPTIBIOMA-W), Contract no. 45/2012.

References