UDC 633.884

**Taras Melnychuk, Volodymyr Sendetskyi, Ivan Kyforuk,
Oksana Stelmakh, Halyna Zhyrun**
Pre-Carpathian State Agricultural Experimental Station
of the Institute of Agriculture of the Carpathian Region NAAS

BIOLOGICAL AND TECHNOLOGICAL FEATURES OF MILK THISTLE PRODUCTIVITY UNDER CONDITIONS OF THE PRE-CARPATHIANS

During 2016–2018, we carried out the research of the effects soil cultivation methods, sowing rates and use of soil herbicides with active substances such as trifluralin (treflan 480, e.c. – 2 l/ha), metazachlor (butizan 400, e.c. – 2 l/ha) (not registered on the culture, being as search option for scientific purposes) on the peculiarities of plants density formation, their generative organs, level of weeds in crops and biological and technological potential of milk thistle productivity.

It was founded out that during the growing season the plant density has decreased during the period of coming-up shoots by 7–30 %, formation of leaf rosettes – by 18–43 %, during harvesting – by 40–60 % to the studied sowing rates. High biological competition of the culture plants in agrocenosis on the background of studied elements of growing practice has been stated.

The level of weeds in crops has decreased by 15–20 % with increased sowing rates from 0,7–1,3 mln. of seeds per hectare, by 10–30 % with the use of traditional way of soil cultivation to the surface layer one and 2,0–2,5 times when applying herbicides to control (without applying) with the effectiveness of trifluralin of 41–65 % and metazachlor – 49–80 %.

The biological potential of the crop productivity was in the range of 2,29–3,14 t/ha, and the yield on variants was 1,05–1,50 t/ha. The optimum variant with the use of traditional soil cultivation with a sowing rate of 1 mln. seeds per hectare under condition of herbicides application has been determined that provided the highest biological potential at the level of 3,00–3,14 t/ha and the yield of 1,41–1,50 t/ha.

Among studied elements of growing practice, the influence, on the crop yield, the application of herbicides was 52–60 %, methods of soil cultivation – 3–14 %, sowing rates – 22–30 %, and their interaction – 1–5 %.

The researched elements of milk thistle growing practice can be effectively used in on-the-farm conditions, taking into account agro-climatic resources of the cultivation zone, bio-technological features of growth and development of the culture for growing both sowing and pharmaceutical raw materials.