

**GROWTH REGULATORS OF STEROIDAL NATURE IN TECHNOLOGY
CULTIVATION OF WINTER BARLEY**

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Were studied the features of action of preparations of steroid glycosides Moldstim (MS) and Ecostim (EC) on the indicators of growth, photosynthetic activity and productivity to winter barley varieties intensive (Buran) and plastic (Osnova) type, placed in two predecessors crops (peas and soya) in the field crop rotation, legumes saturated.

It is established that the treatment plants of winter barley of *tillering – beginning of booting* stage of stem elongation preparation solutions MS and ES at a dose of 25 mg/l increase the growth parameters - the length and diameter of the stem and the leaf area at 1,1-1,7 times in the studied varieties as compared by the control. It increases the active work of the leaves during ontogeny and accumulation by plants of raw and the absolutely dry biomass in 1,1-1,5 times the variety Buran, in 1,2-2,1 times the variety Osnova.

Under the influence of the preparations MS and ES the activation occurs the photosynthetic activity that leads to the accumulation of plastid pigments - chlorophylls *a*, *b* and *carotenoids* in assimilating plant organs.

The influence of growth regulators to the content of plastid pigments – is one of the most regulated effects of their actions. It was revealed the variety-specific reaction of plants on their application. In the variety Buran appeared stimulating, prolonging their action in the accumulation in the leaves of plastid pigments - chlorophyll *a*, *b* and *carotenoids* during the vegetation period. Reaction of grade variety Osnova is inadequate action to the growth regulators, it depends on the phase of vegetation. The preparation solutions MS and ES stimulate the formation of plastid pigments only in the initial stages of their actions at this varieties (5th day after spraying) and cause depression in their accumulation in the next phase of growth and development of plants.

The calculations of the chlorophyll index, conducted by us, show that the total accumulation of chlorophyll in winter barley plants under the action of preparations MS and ES increases in 1,3-3,9 times independently of the varieties.

It was revealed a direct correlation between the accumulation of biomass, chlorophyll index and productivity of winter barley varieties by grown on various predecessors. Analysis tie showed its variability due, depending on the type of precursor. By soya varieties growing, the correlation coefficients calculated in the phase of earing are high ($r = 0,95-0,99$), on peas - average ($r = 0,43 - 0,63$), especially in the less favorable meteorological conditional years.

It was found, that the increasing growth of plants and photosynthetic functions under the influence of preparations MS and ES leads to increased productivity indices elements, increasing the mass of the spike, the grain mass per spike and productivity varieties in 1,1-1,5 (peas) and 1,3 -1,7 times (soya), compared by the control.

Treatment of vegetative plants preparations steroid glycosides leads to the outflow of nutrients from vegetative to reproductive organs and their accumulation. Increases the content of the main groups of nutrients in the grain - protein 0,27-1,82%, starch 0,40-2,98%, fat 0,05-0,98% and reduces the amount of fiber and ash.

The experimental dates obtained by us, allow to make a conclusion about the prospects of the use of drugs of steroid glycosides in the crop production practice in order to increase the photosynthetic activity of plants of winter barley varieties, to increase crop yields, to improve product quality, as well as resistance to different environmental factors when growing them in crops by legumes predecessors.