

CHAPTER 4 FODDER PRODUCTION

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BOTANICAL COMPOSITION OF ALFALFA-GRASS AGROPHYTOCENOSIS DEPENDING ON PRE-SOWING TREATMENT, FERTALIZING AND FOLIAR FEEDING

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Statement of the problem. The botanical and species composition of the grass is one of the most important factors that determine the quality of the forage, its biological value and the longevity of meadows. Potential productivity, i.e. the ability of grass to more fully use the nutrients from the soil, fertilizers and the whole complex of favorable conditions for the growth and development of meadow grasses, depends on the botanical composition of the grass.

It shows the ability of cultivated plants to deal with unwanted species of weeds. This is the main indicator of the grass growth in general and of its individual components, in particular, it reflects the quantitative composition, the conservation of species and their longevity, and finally the cenosis transformation depending on the technological elements. High productivity and valuable botanical composition of grass can be achieved using simple agro methods: optimizing the care regimes and using of mineral fertilizers.

Main material. Evaluating the results of the conducted botanical analysis of alfalfa-grass mixture, one can conclude that the share of creeping alfalfa in the grass was on average over the years of use and was within 36,5–50,2% depending on the variant of the experiment. The share of grass was 45,0–55,9%.

The smallest share of the legume component, presented by creeping alfalfa, was under absolute control without fertilizers, seed and foliar treatment – 36,5%. The highest share of grass was noted in this variant of the experiment, it was 55,9%.

The use of technological methods of intensifying the perennial grasses cultivation has encouraged the increasing of alfalfa percentage in the grass. Thus, in variants with seed treatment with Viva growth stimulator, the share of legume component was 39,8–48,1%, with the use of Ryzobofit bacterial fertilizer – 42,1–49,6%, and with their combined use – 44,2–50,2% depending on the fertilizer.

The grass share consisting of reed fescue and *Bromus inermis* in these experimental variants was 46,6–53,5, 46,4–51,7 and 45,0–49,5%, respectively.

On variations of the experiment, where phosphoric-potassium fertilizers P₆₀K₆₀ were added, there was noted growth of the percent of creeping alfalfa in the grass. Thus, when sowing raw seeds, this indicator was 41.0%, with the use of Viva growth stimulator – 46,5%, Ryzobofit – 47,7%, and for their combined use – 49,6%.

In cases of foliar treatment with Tryamin Plus, the indicators were 38,7, 42,2, 43,1 and 46,1%, respectively.

Thanks to the optimization of plant nutrition and the reduction of the stress factor effects such as adverse weather conditions and alienation of grass, which was achieved with the surface treatment of phosphoric-potash fertilizers P₆₀K₆₀ and foliar treatment of Tryamin Plus, the share of creeping alfalfa was 43.2% in variants without seed treatment, 48,1% with Viva growth stimulator, 49.6% when treated with Ryzobofit and 50,2% with a combined use of these drugs. The percentage of grass in the indicated variants of the experiment was at the level of 50,2, 46,6, 46,4 and 45,0%, respectively. Among the group of grasses, the reed fescue was the dominant with 38,6–42,1% and the *Bromus inermis* was only 4,2–8,1%.

The group of grasses, consisting of annuals (yellow foxtail, annual fleabane and field mustard), were only 4,0–10,0% depending on the variant of the experiment.

Conclusions. Thus, pre-sowing treatment with Viva growth stimulator and Ryzobofit, surface treatment of phosphoric-potash fertilizers P₆₀K₆₀ and foliar treatment of Tryamin Plus ensured the highest percentage of creeping alfalfa in the grass field at 50.2%.

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