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HARVEST OF THE BEAN AND GRASS MIXTURE UNDER THE USE OF MINERAL FERTILIZERS IN THE MOUNTAIN ZONE.

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The harvest data of the bean and grass mixtures under the use of the mineral fertilizers in conditions of mean mountainous zone of Almaty regions are adduced in this article.

In Kazakhstan, the North Tien Shan mountain range is the western end of the Talas Alatau with the part of its spurs, western part of the Kyrgyz Range, the Ili Alatau Uzynkara (Ketpen) and the eastern flanks of Kungei and Teriskey Alatau [1].

In strengthening of the animal forage base of the livestock breeding in the midland of the south-east of Kazakhstan it is extremely important to create and use of seeded hayfields and pastures. The use of fertilizers on the crops of the bean and grass mixtures for increasing of crop yields is very actual.

Productivity of the cultivated seeded hayfields provides 10-15 thousand of feed units, increasing the protein content in the forage of 15-10 % and reduce the cost of the feed by 10-15% per unit of livestock production.

Creating of the bean-grass seeded hayfields in the midlands is the novelty of the work at the feed production.

When sowing mixtures of legumes and cereals particular importance is the selection of species that do not displace each other from the grass.

Scientific research work was carried out in the Mynzhylky (2100m above sea level) Raiymbek district of Almaty region in a secured bogara midlands North Tien-Shan. The climate of intermountain valleys is characterized by the big continentalness, long and rather cold winters and rainy springs and cool mode and a short frost-free period.

According to the weather station Mynzhylky average height of the rainfall is 959.0 mm.The annual average temperature is -2,4 ° c. Winters are cold, the coldest average temperature, average temperature of the coldest month (January -13,3 ° c, and the warmest (July)) does not exceed 7,2 ° c. The absolute maximum temperature of +21 ° c, and the minimum -38 ° c. The greatest snow depth is 91 cm. The length of the frost-free period is 53 days.

The soils of mountain-meadow chernozem and mountain forest-meadow soils are formed under conditions of middle relief with an altitude of 2000-2500m in the forest belt of the mountains. Capacity of the soil profile of these soils does not exceed 30-35cm. The humus horizon is characterized by dark color, the humus content at a depth of 10-20cm isfrom 9.8% to 10.4%.

We studied the effect of fertilizers - ammonium nitrate, superphosphate and potassium salts (N and P - 45kg, K - 30kg current beginning for 1 ha) on the yield of legume-cereal mixtures in a mountainous area on the wealthy non-irrigated lands. Agricultural technician in the experiments is as follows: in the autumn, after the harvest of barley, the plowing with the plough PN-4-35 is made to a depth of 22-25 cm, and in the spring - mulching, cultivation of plowed fields with harrowing. Chemical fertilizers were introduced under cultivation. In the second, third, fourth, fifth and sixth year of life were made by fertilizer harrowing.

The cultures were sown in early May by sowing-machine CH-16. Seeding depth of Onobrychis was 5-6 cm and and herbaceous grass was 2-3 cm. Before planting and after the soil is rolled. The size of plots 100 m2 in the four-fold repetition. The location of the plots consistently in one layer. The method of sowing is usual in series. Experiments were laid in early May in 2001 to 2002. In the control version of the net sown seed Onobryches Alma-Ata-2.

The composition of mixtures: Onobrychis + bromus inermis + Dactylis glomerata + Elymus Dahuricus Narynkolsky.

After sowing 15 days later came the full harvest. Seedlings from Onobrychis and cereals have been amicable.

Germination mixtures was 47,0-50,0%. In the first year of life, all of perennial grasses in the mixtures were developed to full tillering and Onobryches to branching.During the growing season of forage crops in the first year of life on the crops held twice mowing weeds.

Table. **The harvest data of the bean and herbaceous grass mixture under the use of the mineral fertilizers, center/ha (average according to two experiments during 2002-2008years)**

№	Experiment variations	The harvest of the hay-crops during life years						Average during 6 years
		the 2nd	the 3d	The 4th	The 5th	The 6th	The 7th	
1	Control (without fertilizers)	40,0	37,5	30,0	21,0	-	-	32,1
2	N 45	51,2	49,0	46,5	39,4	38,5	37,0	43,6
3	P 45	49,1	46,4	45,0	37,2	35,0	32,5	40,9
4	K 30	44,5	42,0	39,3	31,5	29,3	27,1	35,6
5	N45 P45	53,0	51,5	47,9	42,0	40,1	38,4	45,5
6	N45 P45 K30	55,5	53,8	50,0	45,1	43,5	42,2	48,3
	The least significant difference 095 c/ha	1,6	1,5	1,4	1,5	1,5	1,5	

Onobryches varieties of sort Alma-Atinski-2 on the growth and development of the first 3 years of life remains normal, for the fourth year of his survival is reduced, nd often is 45-50%, and the fifth up to 30%.

Elymus Dahuricus sort Narynkolsky by the growth and development in the first 3 years of life remains normal, in the fourth year survival drops to 30%, and in the fifth year of life, 10% to 12%.

Bromus inermis sort Intensive, Dactylis glomerata sort Zailiiskiy for survival is superior to other studied cultures.

Onobryches gives one cutting and aftermath. The best harvesting period is during the beginning of flowering. At Mynzhilky the beginning of flowering of Onobryches coincides with the beginning of earing grass forage crops. For the second year of life in the spring grass mixture grows at the 10th of April and at this time was carried out twice harrowing. In Onobryches the budding phase begins at July the 6th. The first mowing of grass mixture were carried out in phases beginning of flowering Onobryches and heading of cereals, and the second hay harvest is the aftermath (30%) at the end of the first decade of September. The productivity of hay legume-cereal mixtures over the years is shown in the table.

Yield of Onobryches hay on average over 4 years is 32.1 centners / ha. Onobryches at the 6th year of life falls. For mixtures were fertile N 45, N45P45 and N45 P45 K30, which received an average of 6 years of 43.6, 45.5 and 48.3 kg / ha of hay.

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НҰРҒАЛИЕВ Қ.С.

БҰРШАҚ ЖӘНЕ АСТЫҚ ТҰҚЫМДАС АРАЛАС ШӨПТЕРДІҢ ТАУЛЫ АЙМАҚТА МИНЕРАЛДЫҚ ТЫҢАЙТҚЫШТАРДЫ ҚОЛДАНҒАНДАҒЫ ӨНІМДІЛІГІ

Резюме

Алматы облысының таулы аймағы жағдайында бұршақ және астық тұқымдас аралас шөптерге минералдық тыңайтқыштарды қолданғандағы өнімділігі келтірілген.

НУРГАЛИЕВ К.С.

УРОЖАЙНОСТЬ БОБОВО-ЗЛАКОВЫХ ТРАВОСМЕСЕЙ ПРИ ПРИМЕНЕНИИ МИНЕРАЛЬНЫХ УДОБРЕНИЙ В УСЛОВИЯХ ГОРНОЙ ЗОНЫ

Резюме

В статье приведены урожайные данные бобово-злаковых травосмесей при применении минеральных удобрений в условиях горной зоны Алматинской области.