UDC 631.1:633.2 ***DOI 10.52578/2305-9397-2024-1-2-144-152***
IRSTI 633.2.03

Kamzina G. O., Master, **the main author,** https://orcid.org/0000–0003–2751–6632
NJSC «University named after Shakarim of Semey city» of Abai region, Semey city, Glinki 20 A. 071404, Kazakhstan, erlan_gulim@mail.ru
Zakiyeva A. A., Ph.D., ,https://orcid.org/0000-0002-1484-8868
NJSC «University named after Shakarim of Semey city» of Abai region, Semey city, Glinki 20 A, 071404, Kazakhstan, araisyly@mail.ru
Dosmaganbetova A. O., Master, https://orcid.org/0000-0002-0296-1142
NJSC «University named after Shakarim of Semey city» of Abai region, Semey city, Glinki 20 A, 071404, Kazakhstan. aker@inbox.ru
Ualieva A.B., Master, https://orcid.org/0009-0009-6126-6105
NJSC «University named after Shakarim of Semey city» of Abai region, Semey city, Glinki 20 A, 071404, Kazakhstan. ualiyevaal@mail.ru
Karayeva O.K., Ph.D., https://orcid.org/0000-0002-4074-5352
«National Agrarian Research University Almaty», Republic of Kazakhstan, Abaya Ave 8, 050010, karlyga.karayeva@kaznaru.edu.kz

THE MAIN ELEMENTS OF AGRICULTURAL TECHNOLOGY IN THE CULTIVATION OF WHEAT-GRASS ON SANDY SOILS IN THE ABAI REGION

ANNOTATION

In the new policy course Strategy «Kazakhstan-2050»: the task is to use natural pasture lands, including to revive the system of cattle breeding, taking into account new scientific, technological, and managerial achievements. The 35th and 97th steps of the National Plan "100 concrete steps" of the Head of State are also aimed at the development of domestic animal husbandry.

In a market economy, due to the bankruptcy of large agricultural enterprises and their transition to new forms, feed production has become a loss-making industry. The refusal to cultivate annual and perennial crops led to a complete lack of forage, which led to a reduction in the number of cattle.

The wide distribution of the wheat-grass on saline soils makes it possible to consider it a promising plant for the development of these lands. Therefore, it is usually sown where other plant species cannot grow.

One of the main sources of pasture feed in the east of Kazakhstan is a long–term forage crop - broad-leaved wheat-grass. Due to its ecological plasticity, the wheat-grass occupies a leading position among hayfields and pastures, with a specific gravity of 60%. It also occupies a significant share in the composition of forage crops on natural pastures, which are the national heritage of the republic.

The breadbasket is widely used to provide livestock with feed - an urgent problem of our time. The fundamental improvement of natural forage lands is aimed at creating highly productive hayfields and pastures, which makes it possible to increase forage collection.

Key words: *fodder base,pastures, animal husbandry, haymaking, perennial grasses, mineral fertilizers, soil.*

Introduction. In the Abai region of developed animal husbandry, the basis for increasing its productivity is the creation of a solid feed base. Even when keeping livestock on pasture in the feed production system, a significant role will belong to sown perennial grasses, which are cultivated in order to improve natural forage lands on lands that are unsuitable or unsuitable for grain and silage crops [6].

The development of new resource-saving elements of technology for the cultivation of perennial grasses in bogharic lands conditions is currently relevant both scientifically and practically. This is the relevance of the topic of scientific research. In the usual and most acceptable way of laying a plot, before sowing perennial forage crops, intermediate crops are sown in order to improve the structure of the soil and destroy weeds. The application of organic and mineral fertilizers for these crops will contribute to the enrichment of the soil with nutrients, the consequence of which will have a positive effect on the productivity of subsequent main crops. Seeded feeding grounds are created primarily where natural pastures and hayfields have reduced productivity or degraded, as well as with the aim of creating seasonal pastures for a particular animal species, in particular for milking herds, fattening young sheep and cattle

[7]. Such pastures are created in places that are adjacent to shearing points and in places where window and case campaigns take place, in places where cattle runs are issued, and of course in places adjacent to livestock premises.

Under various agrophytocenoses wheat-grass, due to the strong vital energy generated in the process of survival and formation of the species in the conditions of the dry-steppe region, it showed high competitiveness among other crops in the struggle for growing conditions [8].

Regular wheat-grass - a valuable forage crop. Regular wheat-grass (comb-shaped) Agropyrum pectinitorme (Bieb) Tzvel, is presented as a perennial turf grass, reaching up to 60 cm in natural herbage, and up to 90 cm in height in culture. It is not demanding of soils, grows well on loamy and sandy loam soils, provides harvests on fertile chestnut chernozem soils. In addition, the granaries withstand saline soils, showing lilac functions, restores the finely visible structure of the soil [9]. As mentioned above, the soil is undemanding, it germinates well on loamy and sandy loam soils, provides harvests on fertile chestnut chernozem soils. In addition, they withstand saline soils, showing lilac functions, restores the finely visible structure of the soil.

Materials and methods of research. The main object of our research was the culture of the variety of wheat-grass Karabalyksky 202. Over the years of research, the average precipitation height was 215.4 mm with fluctuations from 158.5 mm (2018-2019) to 301.6 mm (2019-2020). according to the height of precipitation, agricultural years can be conditionally divided into arid 137-2 mm (2020-2021) and 158.5 mm (2021-2022) , average 213.0 mm (2022-2023) and 266.6 mm (2022-2023) and wet 301.6 mm .(table 1)

The climate is strongly continental. The hydrothermal coefficient for April-June is in the range of 0.4-0.6. The sum of positive temperatures during the research period is 2800-3200C. The average annual height from precipitation is 220 mm with significant companies [10]. For three years, according to the Abai region meteorological station, fluctuations in the amount of precipitation ranged from 158.5 to 301.6 mm.

Table 1 – The height of precipitation by month, season and average for three years (2018-2023) by meteorological stations of the Abai region (mm)

Agricultural years	Autumn				Winter			
2018-2019	September	October	November	Amount	December	January	February	Amoun
2019-2020	-	17,0	12,5	29,5	32,8	35,2	18,2	86,2
2020-2021	12,5	11,3	6,7	30,5	0,2	18,0	34,0	52,2
2021-2022	2,4	34,5	40,4	82,3	40,0	35,5	12,7	78,2
2022-2023	22,1	3,5	35,8	51,4	42,8	2,0	11,3	56,1

The following experiments were conducted on the study of agrotechnical techniques for cultivating the wheat-grass Karabalykskii variety on a separate site. The experiments were laid twice in time. The experiment is laid twice in time, the area of the plots is 4 mg, the repetition is 3 times. Along with the determination of germination, we note the yield of the wheat-grass by years of life, in the 1st, 2nd, and 3rd years. In the experiment 3. Definitions of the seeding rate and seeding methods of wheat-grass.

The scheme of the experience

1. Row spacing 15cm seeding rate 4 million/ha

2. Row spacing is 30 cm, seeding rate is 2.0 million/ha

3. The row spacing is 45 cm, the seeding rate is 1.33 million/ha

The row spacing is 60 cm, the seeding rate is 0.83 million/ha

The experience is laid twice in time. The area of the plots is 30 m2 (In * 10 m), the repetition is 3 times. In the experiment, along with the yield of the herbage, it differs in the passage of phenological phases of development, we determine the morphological and biological pecualirity of development [11]. In order to determine the ability of the wheat-grass in the conditions of the dry–steppe zone of the Abai

region on old-age crops, we determine the yield of pasture mass by phases of development - tillering, tubing, earing, high ripeness of seeds (experience 5).

The scheme of the experience:

1. Mowing in the tillering phase
2. Mowing in the booting phase
3. Mowing in the earing phase
4. Mowing in the phase of high ripeness (maturation).

After the main mowing, we observe the growth and development of the aftergrass and, when it increases, we carry out a second mowing. The experience, as well as the previous one, is laid twice in time. The area of the plots is 30 mg, the repetition is threefold.

Results of the study and its analysis. In the experiment, we determine the elements of the wheat-grass, the yield of the seeds of the comb-shaped variety.

Table 2 – Elements of the wheat-grass structure of the pasture mass harvest, depending on the methods of sowing and the seeding rate, sowing 2018-2023

Width of row spacing cm	Seeding Rate mln/ha	The Diameter of the bush is cm	Height of generative shoots cm	The length of the basal leaves is cm	Weight of 1 bush g	Percentage of leaves and vegetative shoots
1st year of life						
15	4,0	3,9	50,4	15,1	4,4	99,8
30	2,0	4,2	49,5	16,0	5,6	98,4
45	1,33	4,4	51,6	15,5	5,8	98,8
60	1,0	4,6	52,3	14,9	6,3	98,8
2nd year of life						
15	4,0	4,4	52,7	16,6	5,4	98,6
30	2,0	4,7	56,7	17,3	6,1	98,1
45	1,33	5,1	49,4	16,3	6,4	96,4
60	1,0	4,8	52,3	17,1	7,1	95,7
3rd year of life						
15	4,0	12,1	55,4	22,2	24,5	90,6
30	2,0	13,4	57,0	20,5	26,2	86,4
45	1,33	12,6	55,4	23,2	28,5	85,4
60	1,0	13,7	57,4	22,7	29,5	80,0

The data obtained show that with age, the mass of one bush increases from 4.4 to 29.5 g. the largest bush mass is in the third year of life and 10-20% in the third year of life. Also, the age of plants increases the diameter of one bush is 3.9-4.6 cm, then in the second year 4.4-5.1 cm and in the third year 12.1-13.7 cm. Observation of the growth and development of the herbage shows, especially in the third year of life, 10-20% in the third year of life. Also, with the age of wheat-grass, the diameter of the bush increases was 3.9-4.6 cm, then in the second year 4.4-5.1 cm and in the third year 12.1-13.7 cm.

Table 3 – Yield of green mass and hay of wheat-grass by vegetation phases, kg/ha for 2021-2023

Phase of development	2021y		2021y		2023y		average	
	Green mass	dry	Green mass	dry	Green mass	dry	Green mass	Dry
tillering	3,3	1,4	2,1	0,9	3,3	1,6	2,9	1,3
booting	3,6	1,8	4,6	2,1	4,9	2,4	4,7	2,1

earing	11,2	5,1	9,9	4,7	12,2	5,8	11,1	5,2
flowering	14,5	5,9	13,5	6,3	15,8	7,9	14,6	6,7

The yield of green mass og wheat-grass in the tillering phase according to the years of research was 2.9 c/ha or 1.3 c/ha of dry weight. Observations of the site where the harvest was recorded and the herbage was cut in the tillering phase, during the summer period the herbage did not grow well. And only in June and early July, these areas had good grass [12]. But there were no generative shoots in the herbage and signs of exit into the tube were noted on individual bushes. And only at the end of September, vegetative beatings were noted in the herbage and the herbage could be used for pasture purposes.

One of the main and most important components of forage plants is protein. In cereals, its content is determined by the availability of available forms of nitrogen in the soil [13]. Therefore, the application of nitrogen fertilizer contributes to a significant increase in the dry protein content in plants. Below is the chemical composition according to the phases of development of wheat-grass.

Table 4 – The chemical composition of the wheat-grass by phases of development

Development phase accounting date	moisture	protein	albumen	fat	cellulose	nitrogen-free extractive substances	ash
Tillering 25,4	15,2	11,5/13,6	8,3/9,8	2,5/2,9	24,4/28,7	39,0/46,0	6,4/8,8
booting 26,4	13,8	10,9/12,7	7,1/8,2	3,1/3,7	27,5/31,9	37,5/43,5	7,2/8,2
earing 12,6	12,5	8,6/9,8	6,6/7,6	3,7/4,2	29,1/33,2	40,3/46,1	5,8/6,7
Flowering 30,6	12,2	6,6/7,6	6,7/6,5	4,0/4,6	29,2/33,4	41,8/47,8	5,9/6,6

In the numerator for air dry, in the denominator for absolutely dry matter (table-4).

Chemical composition data of wheat-grass is show that its grass in the early stages is very nutritious, contains 12-13% protein, and in the phases of earing and flowering, (Figure 1) its herbage becomes significantly coarser, the amount of fiber reaches 33% on an absolutely dry substance [14]. Among the well-known agrotechnical measures that affect the chemical composition of plants is the use of organic and mineral fertilizers, as well as joint sowing with legumes.

Figure 1 – Determination of the breadbasket for chemical composition

In order to prove the positive effects of organic and mineral fertilizers on the yield of broad-leaved granary, this experiment was repeated under the same conditions, on the same herbage with the same options. About the experience of using sheep manure 20 t/ha as an organic fertilizer, and ammonium nitrate, superphosphate and potassium salt as mineral fertilizers. Moreover, three doses of ammonium nitrate were studied - 20.40 and 60 kg of the active substance superphosphate and potassium salt. Rotted sheep manure was applied in autumn and mineral fertilizers in early spring.

In the experiment, the yield of hay was determined, for which the grass was mowed in the phase of full flowering. The yield was determined as in the year of application – determining the effect of fertilizers and in the second year – the consequence.

Observation and teaching of the yield of green mass and hay in the second year after fertilizing with organic and mineral fertilizers show their positive effect. So, according to the option of applying organic fertilizer, the increase in the yield of green mass in the second year of life was 2.5 c/ha or 0.7 c/ha dry. Mineral fertilizers also continued to have a positive impact. (Figure 2) The largest increase in green mass in the second year after fertilizing with mineral fertilizers was obtained in the variant where the dose of ammonium nitrate was -60 c/ha of the active substance -3.6 c/ha of green mass and 1.4 c/ha of dry. Reducing the dose of ammonium nitrate to 40 and 20 kg/ha in combination with superphosphate and potassium salt in doses of 20 c/ha, even in the second year had a significant increase in yield-3.1-2.8 c/ha and 1.4 and 1.1 c/ha. A small increase in yield was obtained in the second year after the introduction of organic fertilizers -2.5 c / ha of green and 0.7 c / ha of dry weight. Next, we will present experimentally the materials of the environmental efficiency of the use of organic and mineral fertilizers, then we will express the efficiency indicators in total terms.

Figure 2 – Application of mineral fertilizers to the «Balapan» site

Karabalyksky 202, along with studying the effects of organic and mineral fertilizers, raised the issue of determining the yield of green mass by phases of development in order to determine the possibility of using its herbage for pasture purposes. It is known that the grass of the granary grows poorly after its bleaching, especially in the late phases of its development. They also wanted to obtain experimental data on the effect of the intensity of the use of grassland for pasture purposes on its further productivity.

The yield of pasture mass was determined in the phases of its development – tillering, tubing, earing and flowering. It is known that during the period of seed maturation, the underground mass of the granary becomes coarser, generative shoots dry out and during this period that the herbage is almost not eaten by animals. Its herbage is readily eaten at different stages of development-tillering, tubing and relatively well in the earing phase.

Table 5 – The nutritional value of the wheat-grass by phases of development, kg per 100 kg of feed

Phase of development	At natural humidity		On a completely dry substance		The feed unit contains digestible protein
	Feed units	Digestible protein	Feed units	Digestible protein	
tillering	33	5,,2	102,9	27,4	157

booting	30	5,0	100,0	19,2	167
earing	26	4,3	78,1	12,3	153
flowering	33	3,1	90,6	8,5	94

In the process of conducting research, it was found that the grass of the white-grass has different eating phases of development, which ultimately affects the weight gain of animals (table-5).Karabalykskii 202, along with studying the effects of organic and mineral fertilizers, the question of determining the yield of green mass by development phases was raised in order to determine the possibility of using its herbage for pasture purposes. It is known that the grass of the wheat-grass grows poorly after its bleaching, especially in the late phases of its development [15]. They also wanted to obtain experimental data on the effect of the intensity of use of the wheat-grass for pasture purposes on its further productivity.

In the general complex of full-fledged animal feeding, the issues of mineral nutrition occupy a special and very important place. Combinations of nutrients in the diets of farm animals with a sufficient amount of mineral salts under favorable conditions of maintenance and care ensure normal growth, development of the body and proper metabolism. Which stimulates their high productivity.

Among all the main and plant mineral elements known in the body, the most important are calcium, phosphorus, potassium, sodium, magnesium, sulfur, and chlorine. Insufficient or excessive intake of them from the norms leads to a violation of the physiological functions of the animal's body, a decrease in productivity, and an unproductive waste of feed. With the participation of mineral elements, oxygen is bound and carbon dioxide is excreted, osmotic pressures are maintained in the cells of the body.The slightly alkaline reaction of the sample and tissue fetters is regulated by the acid-base balance, that is, the normal course of life processes takes place.

Numerous studies have established that cereal forage plants, including wheat-grass, contain the maximum amount of nutrients in the early stages of development, and it gradually decreases and maturation. It has also been proven that the nutrient content varies depending on the soil and weather conditions of plant growth [16].

Conclusions. In the process of studying the elements of the wheat-grass, yield, chemical composition and nutritional value of the wheat-grass variety Karabalynsky 202, analyzing literary sources of Kazakhstan, Russian and foreign authors, and based on enlightened personal experimental research in the dry-steppe zone of the Abai region, the following conclusions can be drawn : For the study of methods of sowing and forage for sowing grain, experiments were laid for three years. In the experience of laying the 2019 hay yield in an average of three years, a sowing option with a row spacing of 30 cm and a seeding rate of 2 million germinating seeds per ha of 5.2 c/ha was introduced. By an insignificant amount, the hay yield was inferior to the indicated sowing with a row spacing of 15 and 45 cm and seeding rates of 4.0 and 1.33 million hectares -4.9 and 5.0 kg/ha. In the sowing of 2020, a high hay harvest was also obtained in the sowing variant with a row spacing of 30 cm and a seeding rate of 2 million/ ha on average for two years -6.2 c/ha of hay. Other options were significantly inferior to the best option. In the sowing of 2021, the best yield option was sowing with a row spacing of 45 cm and a seeding rate of 1.33 million /ha -4.6 c/ha.

As a result, the wheat-grass should be sown with a row spacing of 15-45 cm at a seeding rate of 2.0-2.5 million / ha.

According to the chemical composition and nutritional value of the feed, the wheat-grass is not inferior to many other cereals, since it contains from 11.5% tillering to 6.6% flowering of the digested protein according to the phases of development. All types of macronutrients have been identified in the feed of the wheat-grass: – calcium, phosphorus, magnesium, iron, silicon, sulfur, chlorine and essential amino acids: - lysine, histidine, methionine, cysteine, arginine, leucine, isoleucine, phenylalanine, threonine, valine, glycine. 1 fodder unit of wheat-grass contains digestible protein according to the phases of development: tillering 157 outlet into the tube -167, earing-153 flowering 94g also revealed high forage capacity of wheat-grass and excellent digestibility and nutritional value [18]. Analyzing the above, we believe that in the dry-steppe zone of the Abai region, it is necessary to resume crops of wheat-grass of the Karabalykskii 202 variety using grass for pasture purposes and hay harvesting. And it is also necessary to establish its seed production.

REFERENCES

1 Koryakina, V.M. Results of studying wheatgrass (*Agropyron* Gaertn.) accessions from the VIR global genetic resources collection in Yakutia [Text] / Koryakina V.M., Kochegina A.A. // *Proceedings on applied botany, genetics and breeding* : 2021.-59-71p.

2 Derevyannikova, M.V. The productive potential of the collection samples of the crested wheatgrass in the conditions of the Stavropol kray [Text] / Derevyannikova M.V., Chumakova V.V., Chumakov V.F., Mironova T.M.// *Grain Economy of Russia*: 202.-P.-3-7

3 Kochegina, A.A. Evaluation of commercial traits in the accessions of the wheatgrass genus (*Agropyron* Gaertn.) under the conditions of Central Yakutia [Text] / Kochegina A.A., Koryakina V.M//*Proceedings on applied botany, genetics and breeding*: 2023.-Vol.-184:-87-100.

4 Serekpaev, N.A. The effectiveness of various methods of surface improvement of pastures in the conditions of Northern Kazakhstan [Text] / Serekpaev N.A., Stybaev G.Zh., Kolesnikova L.I // The international scientific journal "Agrarian Education and Science" of the Ural Agrarian University. – No. 2. – 2015.-P – 11.

5 Chernenok, V.G. Scientific foundations and practical techniques for managing soil fertility and crop productivity in Northern Kazakhstan [Text] / Chernenok V.G// – Astana: S.Seifullin KATU, 2009. – P. 24-28.

6 Sui, N. Photosynthetic characteristics of a super high yield cultivar of winter wheat during late grown period [Text] /Sui, N. Li M. Meng Q.-W.//Agricult. Sci. in China. — 2010. — 9, N 3. — P 346—354.

7 Ashraf, M. Photosynthesis under stressful environment: An overview [Text] / Ashraf M., Harris P.J.C // Photosynthetica. — 2013. — 51, N 2. — P 163—190.

8 Gibadullina, F.S. Productivity of cultivated pastures and their influence on the physiological state of cows and product quality [Text] / F.S.Gibadulina, Sh.K. Shakirov, L.P. Zaripova //Fodder production.-2004.-No. 5 p.-6-9.

9 Grigorenkova, E.N. New and non-traditional forage crops in the conditions of the Northern Caspian Sea [Text] / E.N. Grigorenkova et al. // Science of production.-2003.-P. -12-14.

10 Mozhaev, N.I. Prospects for the transformation of decommissioned arable land into forage lands in Northern Kazakhstan [Text] / N.I. Mozhaev, N.A. Serikpaev, G.M. Stybaev //Fodder production.-2004.-No.5.-S.-13 15.

11 Tumanyan, A.F. Principles of design and techniques for creating long-term multicomponent pasture agrophytocenoses. [Text] / A.F. Tumanyan, O.V.Zvelinsky, M.M.Shagainov //Bulletin of the Russian Academy of Sciences.-2006.-No.2-pp.36-39.

12 Zotov, A.A. Agroecological bases of production and use of fodder in hayfields and pastures [Text] / A.A. Zotov, N.A. Semenov// Forage production, 2006.- No.7.- pp. 6-7.

13 Dronova, T.N. Efficiency of alfalfa cultivation in fodder crop rotation [Text] / T.N. Dronova// Sb. nauch. Works.- Volgograd, 1989. - pp. 38-43.

14 Bondarev, V.A. Perennial herbs - the basis for the production of biologically valuable feed [Text] / V.A. Bondarev// Feed production.-2003.- No. 11.- pp. 30-32.

15 Mc Caughey, W.P. Harvest management and N-fertilization effects on yield and regrowth of smoothbromegrass, crested wheatgrass, and meadow bromegrass in the eastern prairies. [Text] / Mc Caughey, W.P., R.G. Simons // *Canadian Journal of PlantScience*76(5): 1996. –P.773-782.

16 Power, J.F., Nitrogen cycling in seven cool-season perennial grass species. [Text] / J.F.Power // *Agronomy Journal* 78(4): 1986.-P.681-687.

17 Türk, M., Albayrak, S., Yüksel, O., 2009. Effects of fertilisation and harvesting stages on forage yield and quality of hairyvetch.*New Zealand Journal of Agricultural Research* 52(3): 269-275.

18 Ovadykova, Zh.V. The influence of sowing dates and cover culture on the yield of alfalfa - wheat grass mixture [Text] / Zh.V. Ovadykova, A.L. Badmakhalgaev// Bulletin of the Kalmyk University. - Elista: Publishing House of "Kalmyk University", 2008.-№. 5.-P.74-76.

19 Sui, N. Photosynthetic characteristics of a super high yield cultivar of winter wheat during late grown period [Text] / Sui, N. Li M. Meng Q.-W.//Agricult.Sci.in China, 2010. — 9, N 3. — P.346—354.

20 Serkebaev, A.S., Abdullin G.A., Mukasheva A.B. Techniques for improving salt complexes [Text] / Serkebaev A.S., Abdullin G.A., Mukasheva // Bulletin of agricultural science of Kazakhstan. – 1989: - No. 2. -P. 30-32.

РЕЗЮМЕ

В новом политическом направлении Главы государства «Стратегия «Казахстан-2050»: поставлена задача полнее использовать естественные пастбищные угодья, в том числе возродить

систему отгонного животноводства с учетом новых научных, технологических, управленческих достижений. На развитие отечественного животноводства также нацелены 35-й и 97-й шаги Плана нации «100 конкретных шагов».

«В условиях рыночной экономики в связи с банкротством крупных сельскохозяйственных предприятий и переходом их на новые формы, кормопроизводство стало убыточной отраслью. Отказ от возделывания однолетних и многолетних культур привел к полному отсутствию кормовой базы, повлекшему за собой сокращение поголовья крупного рогатого скота».

Широкое распространение житняка на солонцовых почвах позволяет считать его перспективным растением для освоения этих земель. Поэтому его, как правило, высевают там, где не могут расти другие виды растений.

Одним из основных источников пастбищных кормов на востоке Казахстана является многолетняя кормовая культура – житняк ширококолосый. Житняк в силу своей экологической пластичности занимает среди сенокосов и пастбищ лидирующее положение, удельным весом в 60 %. Он занимает значительную долю и в составе кормовых культур на естественных пастбищах, которые являются национальным достоянием республики.

Житняком широко обеспечить животноводства кормами- актуальная проблема современности. Коренное улучшение природных кормовых угодий направлено на создание высокопродуктивных сенокосов и пастбищ, что позволяет увеличить сбор кормов.

ТҮЙІН

«Қазақстан-2050» стратегиясының жаңа саяси бағытында: табиғи жайылымдық жерлерді толық пайдалану, оның ішінде жаңа ғылыми, технологиялық, басқарушылық жетістіктерді ескере отырып, шалғайдағы мал шаруашылығы жүйесін жандандыру міндеті қойылды Мемлекет басшысының «100 нақты қадам» Ұлт жоспарының 35-ші және 97-ші қадамдары да отандық мал шаруашылығын дамытуға бағытталған.

"Нарықтық экономика жағдайында ірі ауыл шаруашылығы кәсіпорындарының банкроттыққа ұшырауына және олардың жаңа нысандарға көшуіне байланысты жемшөп өндірісі тиімсіз салаға айналды. Біржылдық және көпжылдық дақылдарды өсіруден бас тарту мал басының азаюына әкеліп соқтырған жем-шөп базасының толық болмауына әкелді".

Сортаң топырақтарда тамырдың кең таралуы оны осы жерлерді игеру үшін перспективалы өсімдік деп санауға мүмкіндік береді. Сондықтан, ол, әдетте, өсімдіктердің басқа түрлері өсе алмайтын жерге себіледі.

Шығыс Қазақстандағы жайылымдық азықтың негізгі көздерінің бірі – көпжылдық мал азықтық дақыл – жалпақ масақ. Экологиялық икемділігінің арқасында бидай шөп шабындықтар мен жайылымдар арасында жетекші орын алады, үлес салмағы 60% құрайды. Ол республиканың ұлттық мұрасы болып табылатын табиғи жайылымдардағы мал азықтық дақылдар құрамында да айтарлықтай үлесті алады.

Мал азығын кеңінен қамтамасыз ету үшін бидай шөбі – қазіргі заманның өзекті мәселесі. Табиғи жем-шөп алқаптарын түбегейлі жақсарту мал азығын жинауды арттыруға мүмкіндік беретін өнімділігі жоғары шабындықтар мен жайылымдарды құруға бағытталған.