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**СУУСАМЫР ӨРӨӨНҮНДӨГҮ «АЛТЫГАНА»  
ЖАПАЙЫ БАДАЛ ӨСҮМДҮГҮНҮН КӨБӨЙҮҮСҮНҮН  
НЕГИЗИНДЕ ЭКОСИСТЕМАГА ТИЙГИЗГЕН ТААСИРИ**

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**ВЛИЯНИЕ НА ЭКОСИСТЕМУ УВЕЛИЧЕНИЯ  
ДИКОРАСТУЩЕГО КУСТАРНИКА КАРАГАНА  
В СУУСАМЫРСКОЙ ДОЛИНЕ**

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**THE IMPACT ON THE ECOSYSTEM OF THE WILD SHRUBS  
OF KARAGANA (ALTYGANA) ON THE BASIS OF THEIR WIDE  
SPREAD IN THE SUUSAMYR VALLEY**

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Макалада жайыт жерлеринин баалуулугу жана анын айыл-чарбага тийгизген таасири, ошондой эле табигый жайытка бай Суусамыр өрөөнүндөгү көйгөйлүү маселеге айланып бараткан “алтыгана” жапайы бадал өсүмдүгү айтылган. Пайдасыз, желбеген, зыян алып келүүчү өсүмдүктөргө берилген окумуштуулардын аныктамасы кыскача баяндалган. Суусамыр өрөөнүндөгү “алтыгана” жапайы бадал өсүмдүгүнүн өрөөндү бойлоп тоо этегине жайылып өсүү менен бирге тегерегиндеги майда тоют чөптөрдү кескин түрдө кысып жоготуу касиетине ээ болуп, айыл-чарбага, адамга, малга терс таасирин тийгизип, бул өрөөндүн экосистемасына жана анын бузулушуна алып келүү жөндөмдүүлүгү жөнүндө маалымат берилген. Ошондой эле, өрөөн ичиндеги алтыгананын ээлеген көлөмүнүн пайызы ар кайсы тилкелерде (участок) жыштыгына жараша өсүшү көрсөтүлгөн. Жайыт жерлерин зыяндуу, пайдасыз бадалдардан арылтуу, пайдалуу чөптөрдүн өндүрүмдүүлүгүн жогорулатуу жана ошондой эле жайыт жерлерин туура пайдалануу берилген. “Алтыгана” жапайы бадал өсүмдүгүн азайтууга жана жок кылууга ши-чараларды майнаптуу жүргүзүү белгиленди.

**Негизги сөздөр:** экосистема, экология, алтыгана, тилке, контагиоздук эктима, касиеттүү, сейрек, жайыт чөптөрү.

В этой статье обсуждается ценность пастбищных угодий и их влияние на сельское хозяйство, а также проблема в Суусамырской долине, связанная с широким распространением дикорастущего кустарника карагана на этих естественных пастбищах. В статье кратко описаны определения бесполезных, не съедобных и вредных растений, сделанные учеными. В статье также содержится информация о широком распространении дикорастущего кустарника карагана вдоль горных склонов Суусамырской долины, что приводит к резкому вытеснению мелких кормовых культур и, воздействуя на сельское хозяйство, человека и скота, также влияет на состояние экосистему

этой долины. Также описывается процентное содержание объема караганы в различных местах в зависимости от частоты в долине. Дается информация об уничтожении ненужных кустарников на пастбищах, повышении продуктивности полезных растений, а также о правильном использовании пастбищных площадей. Отмечается важность организации эффективных мер, направленных на сокращение и искоренение дикорастущего кустарника карагана.

**Ключевые слова:** экосистема, экология, карагана, полоса, заразная эктима, свойства, редкость, пастбищная трава.

The value of pasture areas and their influence on the agriculture, as well as the problem in the Suusamyр valley related to the wide spread of karagana wild shrub on these natural rangelands are discussed in this article. Definitions for useless, non-eatable and harmful plants made by the scientists are briefly described in the article. The article also contains information on the wide spread of the karagana wild shrub along the mountain downhill of the Suusamyр valley is starting a sharp displace of small forage crops and by affecting the agriculture, human and livestock is also affecting the state of the ecosystems of this valley. Also, it is described the percentage of the volume of karagana in various sites according to frequency in the valley. Information on the removal of unnecessary shrubs on the pasture lands, increasing of productivity of useful plants as well as duly usage of the pasture areas is given. It is noted the importance of organization of efficient measures addressed to the reduction and eradication of the karagana wild shrub.

**Key words:** ecosystem, ecology, karagana, strip, contagious ecthyma, properties, rare, pasture grass.

Rational and efficient use of the pasture resources are one of the dominant factors for provision of material financing of Kyrgyzstan and depend on the pastures. Natural pastures are the source of cheap forage, but currently their conditions are not satisfactory. At present it is

observed that the widescale destruction of ecosystem is taking place on the pasture ecosystem [3; 10].

The Suusamyр valley which is rich of the natural pastures is one of the centers for livestock breeding in the Republic. The Suusamyр valley is located in the distance of 120-125 km away from Bishkek, and through Too-Ashuu pass one can get there, at the same time one can see 2-3 kinds of seasons there.

After the long-lasting winter season the livestock breeders are the first residents of the Suusamyр valley who move to the pastures to use the plants of the valley as the main fodder crop for livestock. Keeping the livestock on the pastures has good influence on the livestock as it improves appetite and metabolism, enhances the resistance to various diseases and increases reproductive capacity. But inefficient and irrational use of pastures leads to the displacing of useful crops by non-useful weed crops there [5; 6; 8].

Non-useful and non-eatable harmful plants are called as weed plants in general. Depending on the harmful effects levels of various sorts of weed plants several definitions were given to them and each of them are considered as correct based on the specific meaning [4].

For example, S.A. Kott, Doctor of agricultural sciences, noted in his report the following: "Weeds plants are the plants that can adapt to crops and grow along with them, and cause damage to humans during processing and planting, but they cannot be grown and reproduced" [2].

And in the scientific works of N.V. Sklyadnev and V.F. Yegorov the following definition is given: "In crop production, while it is growing along with the crops and can cause a damage to agricultural production, reduces a huge number of products, affects productivity and product quality, then this is defined as weed plants" [9].

And also, the following definition was given by the scientist E.Corsmo: "Plants that take away the areas of useful plants, along with their displacement and reducing productivity, and damaging the agricultural production - are called weed plants" [1].

Based on the above stated opinions of scientists and on the basis of the impact of the karagana wild shrub of the on pastures and valuable forage plants growing on these pastures, we can classify them as not useful, not eatable and harmful weed plants.

Useless and non-eatable wild shrub karagana is wide spreading in the Suusamyр valley and its increase from year to year is leading to decrease of the natural pastures productivity and resulting the damage to the livestock breeding sector. Based on observations of the distribution of shrubs in the Suusamyр valley, it was found that the density of distribution of the shrub is different at various sites. This process can be observed in the ranges from 146-148 km, 151-153 km, 155 km, 158-159 km and 167-168 km. Mass distribution is observed in the area from 178 km to 198 km. Spread of the karagana shrubs along the river valley is given in the Picture 1.



**Picture 1.** The growth of the karagana shrub along the river.

This indicator is rising every year and leading to the decrease of the agricultural lands and leads to great difficulties to livestock and people moving through the bushes.

Because the karagana shrubs trunk is prickly and has a dense row of prickly thorns, it easily sticks into the body of the animal, and often because of this leads to the threat of an increase in the disease of animals by **contagious ecthyma**. Moreover, while passing through this shrub the livestock leaves from 0.5 to 1.5 kilograms of their wool per each 1 hectare of shrub area [6].

Along with the fact that these shrubs lead to decrease of forage crops on pastures, another negative feature of this shrubs are the fact that they are become the places of accumulation of harmful insects. Insects also create conditions for reducing pasture yields, as well as harm to livestock. In addition, the wild karagana shrubs taking away moisture, nutrients and sunlight from useful plants, causing negative effects on these plants. The results of the above reasons lead to changes in the ecological status of the entire valley. This fact is shown in the Picture 2.



**Picture 2.** The frequency of growth of karagana shrubs.

For proper use of pastures in the Suusamyр Valley, as well as for the destruction of wild plants, the following methods can be considered:

- Rational use of pastures;
- Regulation of water regime (drainage, irrigation);
- Protection of forage crops, and prevention of increase in the number of non-useful weed plants;
- Possibility of improvement of the surface layer.

The first method – implementation of pasture rotation (keeping of livestock on sheep stables or grazing on the certain pasture sites). Temporary reduction of pasture load (or withdrawal of a certain plot from the total area from circulation), rotation of pasture plots from 1 to 3 years (pasture restoration). [7]

The second method – drainage, sowing of moisture-loving plants on pasture areas rich in humidity, and irrigation of fields and meadows with low productivity.

The third method – environmental protection measures – protection of endangered, medicinal and rare plant species.

- Increase of useful types of plants in protected areas (medicinal, technical, ornamental plants);
- Careful use of pastures with low loads and hay fields;
- One of the simplest measures to improve natural pastures is the destruction of wild weeds - mowing or digging.

The fourth method – when there are valuable forage crops among the grass, and also if they are in poor condition, improvement of the upper layer is recommended.

- Grass seeding;
- Stone cleaning;
- Soil processing (disking, harrowing, chalking).

**General conclusions.** Unfortunately, in recent

years, weed control on pastures is not effective. If, in the near future, the measures to reduce the spread of karagana and destroy it are not taken, there is a problem of reducing the areas of pasture lands. Depending on the ecological regime of pastures, it is necessary to use pasture plots depending on the productivity possibilities of forage resources. In order to develop the methods for improving pastures, it is necessary to determine the condition of forage plants and the condition of pastures, as well as to evaluate the shrub plant of karagana, which is not considered a forage plant. To solve the above indicated important problems, it is necessary to implement and fulfill the relevant and necessary measures.

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