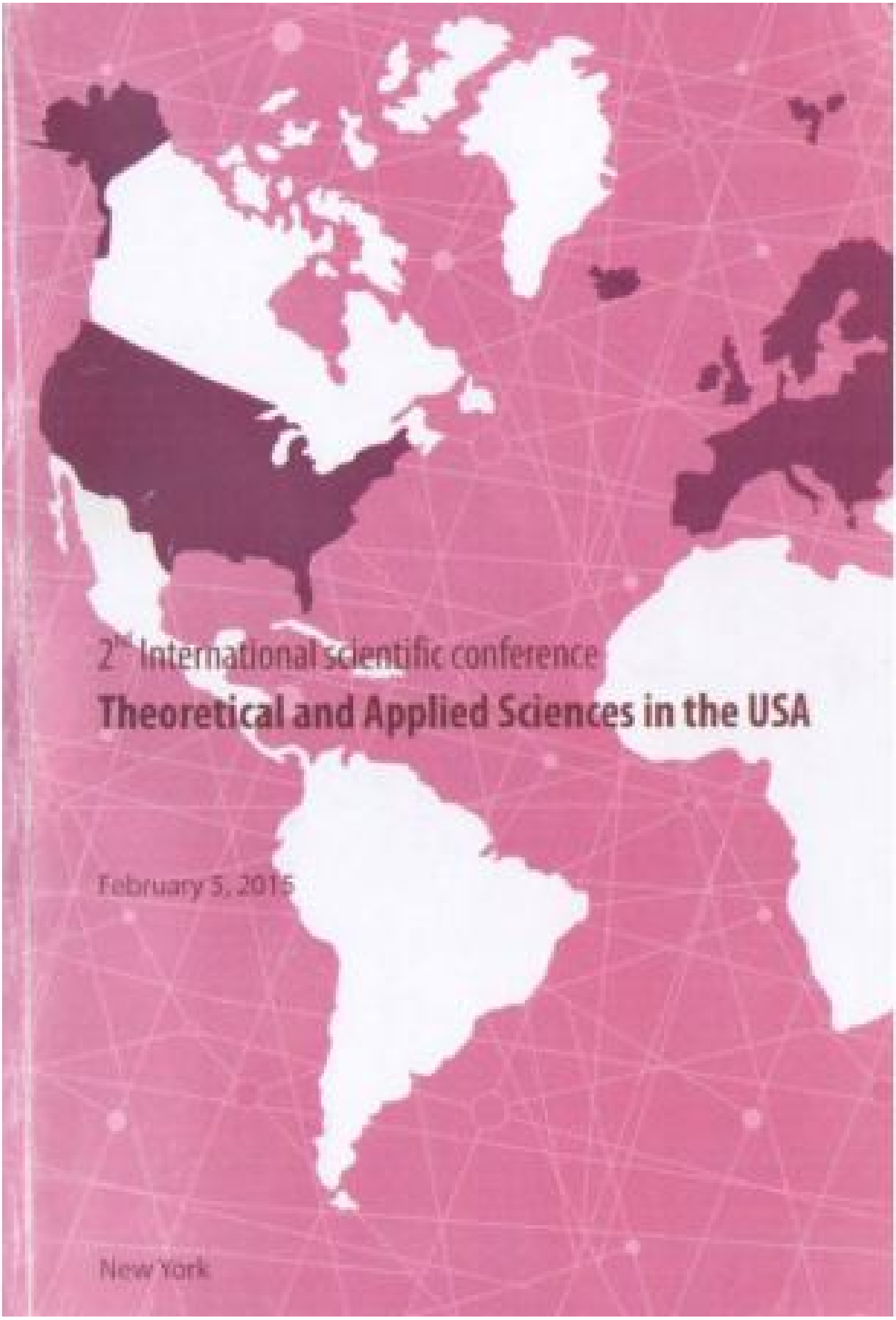

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Therefore in researches we set the task: studying of feature of formation of grain, passing of phenological phases of development; viability and survival of plants to cleaning; photosynthetic activity of crops; solid accumulation, productivity of the studied grades, structure of productivity and economic efficiency of the studied options.

Novelty of the conducted researches. For the first time in pochvenno-klimate conditions of the Republic of Karakalpakstan evidence-based norms of nitric mineral fertilizers for the grades of winter wheat which are widely zoned in production are defined.

Technique of carrying out researches. In field experiments calculation of norms of fertilizers was carried out on carrying out of nutrients on 1 c of grain and collateral production taking into account efficiency of nitrogen, phosphorus and potassium from the soil and mineral fertilizers. Chemical analyses of the soil, plants and grain carried out in agrochemical laboratory by the standard techniques of a field experiment.

Soils of sites on mechanical structure the srednesuglinistye-alluvial. The predecessor corn on a silo. After release of the soil from the predecessor, introduction of phosphorus-potassium fertilizers with further seal, in the spring: early-spring processing and presseding cultivation of the soil is carried out in the fall.

Crops were sowing annually on October 1–2. Depth of sowing is 5–6 sm, norm of seeding of 5,0 mln. seeds on hectare. Field experiments are made in 4-fold frequency, method the rendomization of repetitions.

The received results and their analysis. Determination of field viability of seeds that this indicator doesn't change from norms of introduction of nitric fertilizers and changes within 79–82% at Polovchanki's grade and on Juni's grade of 77–79%.

But the studied options had a certain impact on survival of plants: average values on Polovchanka's grade made — 89%, and on Yuna's grade-84,5%; application of fertilizers increased this indicator by 5–8%. With increase of doses of mineral fertilizers from control to $N_{170}P_{80}K_{60}$ good development, growth and safety of plants was observed.

The size of the area of leaves in strong degree I changed from options of introduction of mineral fertilizers. For example in a blossoming phase at Polovchanka's grade — 25,6, at Yuna's grade of 29–21,9 thousand sq.m/hectare; by $N_{120}P_{80}K_{60}$ option — 32,7 and 29,4 thousand sq.m/hectare; on $N_{160}P_{80}K_{60}$ option — 39,4 and 36,4 thousand sq.m/hectare. For the droughty region this indicator is considered high.

In experiences the greatest number of solid was observed during the interphase period heading -blossoming. In comparison with control on the second option of 7,5–7,7 c/hectare, on the third and fourth options of 26,6–27,9 c/hectare; and on the fourth option of 34,4–35,0 c/hectare. That is on options with introduction of mineral fertilizers of a plant accumulated 2,5–3 times more solid.

As a result of photosynthetic activity of a plant accumulated following grains: on control — at Polovchanka's grade — 10,7 and Juni's grades — 8,2 c/hectare (table 1); on the second option respectively 23,3, and 20,5 c/hectare; on $N_{120}P_{80}K_{60}$ option — 38,2 and 35,4 c/hectare; on $N_{160}P_{80}K_{60}$ option of 46,4 c/hectare and 42,7; on $N_{160}P_{80}K_{80}$ c/hectare option 48,3 and 44,9.

Table 1. – Productivity and structure of yield winter wheat, c/hectare

Indicators	varieties	Options of introduction of nitrogen fertilizers				
		Kontrol	$N_{120}P_{80}K_{60}$	$N_{120}P_{80}K_{80}$	$N_{160}P_{80}K_{60}$	$N_{160}P_{80}K_{80}$
Productivity of c/hectare	Polovchanka		23,3	38,2	46,4	48,3
	Yuna	8,2	20,5	35,4	42,7	44,9
Quantity of productive stalks on 1 sq.m	Polovchanka	417	460	562	595	589
	Yuna	397	431	528	570	573
The mass of grain in one ear, in grammes	Polovchanka		0,68	0,80	0,86	0,88
	Yuna	0,57	0,63	0,78	0,81	0,84
Weight of 1000 grain, g-r	Polovchanka	33,1	35,6	39,4	41,9	42,4
	Yuna	32,2	35,2	38,5	41,8	42,6

Productivity was formed due to bigger quantity of productive stalks on 1 sq.m of increase in mass of grain from one ear and bigger mass of 1000 grains at increase in doses of mineral fertilizers.

A difference between the third and fourth options 1,9 and 2,2 c/hectare therefore here lower norms of fertilizers are preferable weren't considerable. Juni's grade had high rates of efficiency at norms of the $N_{120}P_{80}K_{60}$ and $N_{120}P_{80}K_{80}$ fertilizers, therefore at cultivation of this grade application of high doses of nitric fertilizers is necessary.

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Features nitric fertilizers of winter wheat in the conditions of the Republic of Karakalpakstan

Relevance of a subject. The main cultivated areas of agricultural grounds are taken away under winter wheat. In comparison with other grain crops, it is culture possesses high technological qualities of grain and more high-yielding. Besides production bakery and confectionery, grain of wheat is used for the technical and fodder purposes. High technical and technical characteristics of grain of wheat are caused by high protein content and gluten in grain.

Protein content and quality of grain of wheat widely change depending on a zone and an agrotechnology of cultivation. The average content of protein changes from 12 to 17,5%, a gluten of 13–30%, as a part of grain there are a lot of irreplaceable amino acids, vitamins and connections, useful to organism.

Cultivated areas under winter wheat in the Republic of Karakalpakstan are expanded. At the same time, productivity and its quality aren't constant here. In the analysis of low

productivity of winter wheat it should be noted the soil climatic conditions connected with the low content of nutrients, various degree of salinity of the soil.

In these conditions application of the agrotechnical actions directed on creation of the mode of the food of plants directed on optimization is necessary. An important role in it it is allocated for the correct use of a dose of mineral fertilizers which easily get into root system of plants, improve their food, increase productivity and quality of grain.

Considering an important role of mineral food in formation of a crop and quality of grain of winter wheat us in the 2011–2012 years researches on studying of influence of doses of mineral fertilizers on efficiency of variety of Polovchanka and Yuna are conducted. Mineral fertilizers included the following options:

1. Kontrol
2. $N_{cp}P_{cp}K_{cp}$
3. $N_{120}P_{90}K_{60}$
4. $N_{150}P_{90}K_{60}$
5. $N_{180}P_{90}K_{60}$

Phosphorus-potassium fertilizers brought under the main processing of the soil, nitric 30% under presseding cultivation, 40% in early-spring top dressing, other dose is brought in a kushchenіye phase. On the 5th option of 30 kg/hectare of nitrogen left on extra root top dressing in a phase of dairy ripeness of grain.

Need of such division of nitric fertilizers is explained by uneven potreblenіye of nitrogen. Nitric starvation during the period from shoots to a phase of 3–4 leaves, causes the premature termination of functions of meristems of points of growth therefore at the subsequent introduction of nitric fertilizers the number of cones on the main ear doesn't increase. At introduction of nitric fertilizers at the beginning of a phase of a hushing of winter wheat of a plant strenuously cluster, further increase the area of a sheet surface, stimulating accumulation of products of photosynthesis.

The lack of available nitrogen of the soil is shown in an external condition of escapes: they have the low growth, a thin stalk, a narrow sheet plate, pale green coloring of leaves and a small ear.

Modern intensive grades to which the studied Polovchanka and Yuna varieties for realization of potential of efficiency belong consume a lot of nitrogen. Therefore studying of various options of introduction of nitric fertilizers is actual. The need for fertilizers changes on phases of development of plants. In the first stages of the development need for nitric fertilizers the low. Since a blooming phase with formation of additional stalks, roots, cones and flowers the need for nitrogen increases. The maximum consumption of nitrogen is the share of exit phases in a tube and a ear emergence. For increase in a glassiness and improvement of quality of grain carrying out top dressing is provided in a blooming phase –forming grain. Such top dressing increased protein content to 22–23%. In a drought of a dose and terms of nitric top dressing have to are specified depending on local conditions.

As earlier such researches in the region weren't conducted by the purpose of researches there was a definition of optimum norms of introduction of nitric fertilizers and a grade at which comparative efficiency of plants is formed.