

MANUAL ON WHEAT FETUS



**MINISTRY OF AGRICULTURE AND ENVIRONMENTAL
PROTECTION OF TURKMENISTAN**

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MANUAL ON WHEAT FETUS

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The manual describes the characteristics of wheat varieties introduced into production in Turkmenistan, the importance of variety and seed quality in increasing productivity, the concept of breeding, the concept of selective seeds and groups, product organization of seed breeding in the field, arrangement of varieties, variety and seed research, the characteristics of seed wheat cultivation, the characteristics of the first sowing of wheat on a scientific basis, the information on the field analysis of seed wheat are described.

From this manual, breeders, tenants, and students of this specialty can also use.

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INTRODUCTION

In the era of prosperity of our sovereign state under the wise leadership of our President, our national economy in all spheres of agriculture in our country further intensifying, modernizing, products substituting for increase production and increase export capacity huge work is being done in this regard. As a result of radical reforms in the economy and growing a bountiful crop of cotton and these products in order to stimulate producers economically, the state purchase prices of wheat and cotton since the 2019 harvest have risen.

As a result of the great work of our esteemed President, grain elevators in all regions of the country and it was built and put into operation by processing mills, flour and flour, bakery and confectionery enterprises. As being the homeland of white wheat Turkmen land, preliminary soil and climatic conditions of each region of the country with the transfer, high-performance high-tech equipment is regularly purchased from abroad. Integrated sector development our country produces an abundant crop of grain annually, and a certain part is exported.

In addition to all the agro-technical measures to be taken to increase the yield and improve the quality of wheat, its importance of breeding on a scientific basis is also very important.

Today it is local in the fields of Turkmenistan abundant yields and quality of grain suitable for our climatic conditions high varieties of wheat are planted. Such varieties have valuable economic characteristics, properties, high yield and food quality, resistance to diseases, pests, and frosts, long-term maintenance of drought tolerance is the main task of breeding. Timely and scientifically developed agro-technical measures in wheat cultivation and in accordance with established norms and breeding the proper conduct of their work yields high results.

Turkmenistan is considered to be one of the first cultural centers of white wheat, with very hot summers and frosty winter climates. National wheat varieties have been established in irrigated agriculture. These wheat varieties are resistant to frost, drought, and soil salinity and is distinguished by its high quality of flour. Turkmen grain growers' paid great attention to the seeds to be planted, when the wheat was reaped and reaped large, heavy, textile grains were kept in

separate containers, sowing and they were able to get a high yield by taking care of their crops on time.

At present, in our country, wheat is a non-seed, prime, selection, through seeds 1 in scientific institutions and their scientific and industrial pilot farms in the states, through 1-2-3and seeds in specialized breeding farms cultivated. Agro technical measures to produce a bountiful harvest of wheat are scientific In order to conduct the breeding and breeding in accordance with the methodology,

This guide has been developed to provide advice to tenants. In the preparation of the manual, scientists, business leaders who have a wealth of experience in growing high yields of wheat, from expert advice, speeches, articles was used.

I. CHARACTERISTICS OF WHEAT VARIETIES CULTIVATED IN TURKMENISTAN

By grain-selection scientists at the Research and Production Center of the Turkmen Agricultural Institute for high yields of wheat, good biochemical performance of grains quality, resistant to soil-climatic conditions, diseases, pests a number of new modern varieties have been created and put into production.

"Sahrayy" variety (Figure 1). It was put into production in 1993 in Ahal, Balkan, Mary and Lebap regions. Winter soft wheat belongs to the "Lutesens, Al" species group, its spike is hairy, length is 10-11 centimeters long, plant is 85-100 centimeters tall, germination period 181-217 days, very cold-resistant, weighs 42-50 grams per 1000 grains, reddish in color, gluten-free 27-30 per cent, protein 12-13 per cent, glassiness is 80-85 per cent, with an average yield of 50-55 centners per hectare, flour and bread character is high and you have to plant with 5 million high yields crop in per hectare.



Figure 1. Sahrayi variety of soft wheat

The "Juvan" variety (Figure 2). In 1997, in all regions of our country has been put into production. Winter-spring soft wheat, belonging to the species group "Lutesens, Al", with no straw, length 10-12 centimeters, plant height 87-92 centimeters, growth period is 187-208 days, very cold-resistant, weighing 39-41 grains per 1000 grains gram, reddish brown, gluing type 27-29 per cent, protein 12-14

per cent, glassiness 70-75 per cent, average yield 50-55 centners per hectare, high in flour and bread character, sowing 4.5-5 million hectares per hectare in a timely manner.



Figure2 “Juvan” variety of soft wheat

"Bitarap" variety (Figure 3). It has been put into production in Ahal and Lebap provinces in 2004. Winter-spring soft wheat, belonging to the "Graecum, Korn" species group, with a bulbous stalk, 11-12 centimeters long, 73-90 centimeters tall, growing period 186-216 days, moderately cold-resistant, weighing 1,000 grains 35-42 grams, white in color, gluten-free 28-32 percent, protein 13-14 percent, glass 60-65 percent, average yield 45-50 centners per hectare, for flour and bread are good, sowing norm is to plant 4.5-5 million grain per hectare in a timely manner.



Figure3. “Bitarap” variety of soft wheat

Yoloten-1 variety (Figure 4). Launched in 2004 in Mary Province. Winter soft wheat, it belongs to the “Lutescens, Al” species group, 11-12 centimeters in length, with no hair follicles, plant height 95-100 centimeters, growth period 200-205 days, moderately cold, weighing 38-51 grams per 1000 grains, color reddish, gluten is 28-30 per cent, protein 12-14 per cent, glassiness 70-75 per cent, average yield 45-50 centners per hectare, flour and bread properties good, sowing rules to grow 4.5-5 million hectares of grain per hectare in due course.



Figure 4. “Yoloten-1” variety of soft wheat

Yoloten-3 variety (Figure 5) Launched in 2011 in Ahal, Balkan, It has been put into production in Mary and Lebap provinces. Winter soft wheat, belonging to the Lutescens, Al species group, is bulky hairy, 10-12 centimeters long, plant height 85-90 cm, growth period 195-200 days, moderately cold-resistant, 1000 grains weighing 49-50 grams, reddish-brown, gluten-free 29-30 per cent, protein 11-12 per cent, glass 75-80 per cent harvest, with an average yield of 50-55 centners per hectare, flour and bread high yields, 4.5-5 million hectares per hectare at a reasonable time should be planted with sprouted grain.



Figure 5. “Yoloten-3” variety of soft wheat

“Miras” variety (Figure 6). It has been launched in Balkan, Lebap and Mary and in Ahal.provinces in 2012. Winter-spring soft wheat to the “Greacum, L” species group belongs, with a stalk, 9-10 centimeters long, plant height is 85-90 cm, development period is 190-215 days, fall stability, high drought tolerance and moderate cold resistance, yellow, brown rust resistant, floury and dusty head does not get sick, weighs 40-45 grams per 1000 grains, white color, glucose content 28-31 percent, protein 11-13percent, glassiness 65-70 percent, average yield per hectare 45-50 centners, flour and bread characteristics are good, sowing is convenient should be planted with 4.5-5 million hectares of grain per hectare.



Figure 6. “Miras” variety of soft wheat

Variety of Garashsyzlyk (Figure 7). In 2016, in our country has been put into production. Winter soft wheat, belonging to the genus “Lutescens, L”, with a sparse stem, 10-11 centimeters long, 65-85 centimeters tall, with a growth period 200-210 days, very cold resistant, weighing 37-40 present of gluten per 1000 grains gram, red, glucose 30-32 percent, protein 12-13 per cent, glassiness 65-70 per cent, average yield 45-50 centners per hectare, flour and bread properties good, 4.5-5 million seed grain per hectare should be sown in due course.



Figure 7. “Garashsyzlyk” variety of soft wheat

“Berkarar” variety (Figure 8). It has been put into production in all provinces of our country in 2016. Winter soft wheat, belonging to the genus “Lutescens, L”, with a sparse stem, 10-11 centimeters long, plant height 83-90 centimeters, growth period is 200-207 days, very cold-resistant, each 1000 grains have weighing 38-41 grams, red in color, glucose content 33-34 percent, protein 12-13 percent, glassiness 65-70 percent, average yield 45-50 centners per hectare, for flour and bread are good, and 4.5-5 million seed should be sown per hectare at the right time.



Figure 8. “Berkarar” variety of soft wheat

“Bagtyyarlyk” variety. In 2018, our country has been put into production in all its provinces. Winter soft wheat, belonging to the species group "Erythro spermum" length 10-12 centimeters, plant height 90-95 centimeters, growth period 200-210 days, frost-resistant, weighing 47-50 grains per 1000 grains grams, red, glucose content 30-32 percent, protein 12-13 percent, glassiness 65-70 percent, average yield 45-50 centners per hectare, for flour and bread are good, sowing should be 4.5-5 million seed grain per hectare at the right time.



Figure 9. “Bagtyyarlyk” variety of soft wheat

“Dovletli” variety (Figure 10). It has been put into production in Dashoguz province in 2018. Winter soft wheat, belonging to the species group "Erythrospermum", a clump of clay stem, 8-10 centimeters long, 71-76 centimeters tall, The growth period is 240-250 days, resistant to moderately saline soils and cold, weighing 43-45 grams per 1000 grains, red, grains gluten is 28-30 percent, protein 11-12 percent, glassiness 65-70 per cent, average yield 45-50 sentner per hectare, flour and bread characteristics are good, 4.5-5 million seed grain should be planted per hectare during the period.



Figure 10. “Dovletli” variety of soft wheat

Turkmenbasy-I variety (Figure 11). In 2000, it has been launched in Ahal, Balkan, Mary and Lebap provinces. Winter-spring hard wheat, belonging to the “Hordeiforme, Korn” species group, with a thick, 10-11 centimeter-long spike, 85-104 centimeters tall, with a growth period of 186-217 days, medium to cold resistant, weighs 40-45 grams per 1000 grains, white in color, grains gluten is 30-34 percent, protein 11-12 percent, glassiness is 90-95 per cent and average yield is 45-50 per hectare centner, the quality of the unash products is high, the sowing rule is in a timely manner to grow 5.5-6 million seed grain per hectare.



Figure 11. “Turkmenbashy-1” variety of hard wheat

Akbash variety (Fig. 12). In 2012 it has been launched in Ahal, Balkan, Lebap and Mary provinces. Winter-spring hard wheat belongs to the “Valencia” species group, stalked, 9-10 centimeters long, 72-82 cm tall centimeters, development period is 80-210 days, moderately cold-resistant, fall stable, weighing 45-48 grams per 1000 grains, white in color, originality(gluten) 28-30 per cent, protein 11-12 per cent, glassiness 90-95 per cent, average yield 45-50 centners per hectare, the quality of produce is high, the sowing rate is 4.5-5 million seed grain per hectare .



Figure 12. “Akbash” variety of fast wheat

Thanks to the efforts of our esteemed President, several varieties of high-yield and high-quality, unfavorable wheat seeds from the Russian Federation that are resistant to soil and climatic conditions were brought and are widely cultivated in the grain fields of our country. They are:

“Hasylyly” variety (Figure 13). In 2013 it has been put into production in all provinces of our country. Winter soft wheat belonging to the genus “Lutescens”, 10-11 centimeters in length, 80-90 centimeters in height, growth period 180-215 days, high cold-resistant, fall-resistant, 1000 grain weighs 35-42 grams, red in color, gluten is 27-30 percent, protein 12-14 per cent, glass 70-75 per cent., with an average yield of 50-50 centners per hectare, for flour and bread is good yields, 4.5-5 million seed grain per hectare should be planted at a reasonable time.



Figure 13. “Hasylyly” variety of soft wheat

"Shanly" variety (Figure 14), in 2013 has been put into production in all provinces of our country. Winter soft wheat, belonging to the genus “Erythrospermum”, length 10-12 centimeters, plant height 85-90 centimeters, , its growth period is 180-190 days, highly resistant to cold, collapsible stable, weighing 1,000 to 35-40 grams, red in color, gluten 26-30 percent, protein 13-14 percent ,glassiness 65-70 per cent, average yield 50-55 per hectare centner, for flour and bread characteristics are high, sowing is favorable to grow 5.5-6 million of seed grain per hectare during the period.



Figure 14. “Live” variety of soft wheat

“Yokumly” variety (Figure 15). In 2017, in our country has been put into production in all provinces. Winter soft wheat, belonging to the genus “Lutescens”, with a sparse stem, 10-11 centimeters long, 85-90 centimeters tall, with a growing period 180-215 days, high cold-resistant, fall-resistant, 1000grain weighs 38-40 grams, red in color, glucose (gluten)28-32 percent, protein 12-14 percent, glassines is 70-75 percent, with an average yield of 50-55 centners per hectare, flour and bread characteristics are high, 5 million seed grain per hectare have to plant.



Figure 15. “Yokumly” variety of soft wheat

"Jovher" variety (Fig. 1). In 2017 it has been put into production in the provinces. Winter soft wheat, belongs to the "Lutescens" genus, 10-12 centimeters long, 80-85 centimeters tall, with growth 180-215 days, high cold-resistant, fall-resistant, weighing 39-40 grams per 1000 grains, red, self-adhesive (gluten) 28-29 per cent, with a protein content of 12-14 percent, with a glassiness of 65-70 per cent, with an average yield of 50-55 centners per hectare, high in flour and breadcrumbs, with a sowing rate of 5 million seed grain per hectare should be plant .



Figure16. "Jovher" variety of soft wheat

"Watan" variety (Fig. 17). In 2017 it has been put into production in all provinces of our country. Winter soft wheat belonging to the "Lutescens" species group, with no striped hair, length is 10-12 centimeters, plant height 85-95 centimeters, growth period 190-220 days, moderately cold-resistant, fall-resistant, weighing 1,000 grains has 45-50 grams, red in color, gluttony 28-30 per cent, protein 11-12 per cent, glass 65-70 per cent, average yield 55-60 centners per hectare, good for flour and bread, sowing 4-4.5 million seed grain per hectare in a timely manner.



Figure 16. “Watan” variety of soft wheat

II. THE ROLE OF QUALITY OF SEED AND VARIETY IN PRODUCTION INCREASING

As the great naturalist I.V. Michurin says, “Variety is the base of success”, the cultivation of resistant varieties to unfavorable conditions, pests and diseases wheat has great importance in increasing productivity and improving product quality.

The new variety is the result of a lot of hard-working selection, which is a means of production from an economic point of view. When new varieties are put into production productivity increases, product costs increase, quality improves, diseases and resistance to pests is increasing.

Varieties have external characteristics and signs of economic importance which is identical in size and provide for their breeding, cultivated in certain natural and industrial conditions, selected for a high yield of stable and high quality products, and many refers to a set of cultivated cultural plants.

Variety - high yields in modern agriculture is the main tool. Introduce high-yielding varieties into production climbing is of great economic importance, and it is the simplest and easiest way to get the highest yield from agricultural crops. Scientific as it is known from

the literature, high yields, better quality at the expense of the introduction of new varieties into production yield per hectare from 2-3 centners to 8-10 centners per hectare can be increased to.

Economic and biological disadvantages of some varieties, as winter wheat varieties winter, frost resistance, late ripening, collapse, instability in diseases, pests, and so on.

Resistant of the wheat varieties with the help of agro-technical measures to a certain extent withstand the harsh environmental conditions. For example, it is suitable for posthumous diseases timely sowing, potash fertilizer, toxic chemicals pre-sowing seeds and other measures.

Breeding work of wheat and other crops in Turkmenistan has been revived and elevated after gaining our independence; it is carried out at the high level. Every year, field analyzes are carried out in high demand on sown wheat fields. Breeding manuals, brochures, articles in newspapers, magazines are recorded, scientific-practical conferences are held, and regular presentations are made on radio and television broadcasts.

However, at the same time, the post-traumatic stress disorder is classified as stable variety of varieties increases grain yield and improves quality. It is common for winter wheat to withstand winter frosts and in agro technics; it is possible to increase only by planting very resistant varieties to the cold. Also sort out in the fight against the fall out of wheat the significance is enormous. The difficulty of obtaining or declining wheat with conventional agro-technical measures is one of the challenges.is one.

At present, most of the wheat varieties planted in our country are resistant to the fallout. Wheat harvest the role of selection is very important in improving quality. Combining the economic and beneficial characteristics of many varieties of wheat with their biological properties today resurrection is an important issue. As is well known, cereals it is difficult to combine high yielding varieties, such as drought, frost resistance, and drought tolerance creates moisture.

Therefore, grain production in our country will continue high yields, good quality, heat and drought tolerant to diseases, pests, saline soils, grain intensive varieties of wheat that do not rot from the stalk Creating and implementing them is one of the most important issues at the state level.

The practical solution to this problem depends on the success of the selection process. Today Turkmen agriculture grain-picker of the Agricultural Research and Production Center of the Institute in the genome of local wheat (breed) by scientists from abroad on the basis of the existing good pedigree creation of modern new varieties using the method of collision with imported varieties and genetic donors (breeders) special selection work is underway. Local in wheat selection and the pros and cons of foreign varieties further harmonization: increasing productivity, quality of wheat grains such as improvement, roughness, cold and disease resistance significant efforts are being made to improve the quality of life.

The creation of new varieties, in our country, is not a change of variety, i.e. the varieties currently being planted in the industry are new, high-yielding, The protein in the grain, which contains a lot of gluten, diseases, pests and unfavorable soil and climatic conditions will provide a great opportunity to exchange sustainable varieties.

III. FETUS SYSTEM

Breeding is a special sector of agricultural production, its main function is to plant and be newly introduced into production the purity of the varieties, their biological characteristics, their properties keep them in good condition and, if possible, improve their performance by increasing their yield consists of reproduction.

In Turkmenistan, wheat seed is obtained in the following order goes.

1. Agricultural research product center of the Turkmen Agricultural Institute the newly created, industrially produced wheat by producing non-seeded seeds of widely cultivated varieties and transferring them to the scientific and industrial test farms in the provinces and to specialized breeding farms submits.

2. Scientific-production test and specialized seed farmers select and produce 1st-generation and newly-introduced varieties of wheat produce. Those farms, in turn, are the province's seed farmers2nd for sorting and sorting associations and by providing a sufficient amount of seeds through the 3rd.

3. Grain-fed wheat crops are sown in specialized seed groups and produced in sufficient quantities for sowing on the farm.

In Turkmenistan 10-15 percent of the field which grain will be sown, is planted. State reserve seed stocks are being created in the country. They are 15 percent of the total seed yield should be equal to the percentage and circulated in the granaries should be avoided. Seed stockpiles have been severely damaged by natural disasters, especially in re-sown farms and used in crop losses.

This reserve should consist of well-purified and large-sized seeds harvested from the seeds of the seed fields. If, according to the results of field analyzes (approvals), those fields are unsuitable or insufficient for seed if not, and the required seeds are well harvested food is allowed to be collected from the fields. Preparation of seeds for seed storage is one of the times when the harvest begins must be completed within a month.

If the stocks are created on the farm, only they can be used for sowing this year, new seeds for them in the new crop are placed.

Seed required in the first breeding of the breeding system 100 per cent, if selected and 1 through seeds 25-30 per cent of the required amount for households is set aside for backup.

Transitional seed stocks are the seeds of winter grains harvested from last year's crop and used for sowing this year. If so, so be it without reserves the sowing is carried out with the seeds prepared this year. It is connected with after cooling the seeds in cool, humid climates due to complete (physiological) immaturity.

In Central Asian countries, the required amount of seed is invested in households through seed selection and through 1st seed. These reserves are not considered necessary in the climatic conditions of our country. The research institutes conducting the selection work are of good quality and modern they create varieties on a regular basis. Newly created varieties for production.

They differ significantly from the older varieties in terms of yield and other economic characteristics. For this reason in production, varieties are constantly changing, that is, sorting the mass is transmitted.

Variety is known as the replacement of old varieties grown in production, with new varieties with better yields and better yields. It is said to have been completely replaced over time.

In Turkmenistan, old-fashioned varieties of high-yielding, high-quality cereals, diseases, resistant to collapse and resistant to unfavorable conditions (Sahrayy, Bitarap, Bagtyyarlyk etc.) has

contributed to a significant increase in productivity and improved product quality. Therefore, the most important task of the breeding business is to carry out a variety change as soon as possible.

Slow varietal replacement is a sign of poor organization of breeding activities on the farm. Some household productivity of varieties introduced into new production they do not use it completely. Another thing to note is that diseases (post fungi) are very old, and varieties that have lost their valuable properties very quickly they become infected. As a result, disease-resistant varieties are emerging use them when they are multiplied and planted in large areas has a longer life span and a lower incidence of disease damage. There is a lot of variety in the household due to the slow transition of the variety also causes This is the case with farm produce sorting, and so on leading to the exclusion of varieties. Therefore, the existing seeds of the relevant varieties should be multiplied expeditiously and at the same time stop breeding work on old varieties should ensure that new varieties yield high yields in planted areas must ensure that agricultural measures are taken. Their harvest but should only be used for breeding. The cultivated seeds of the varieties being introduced into production are many should be given to as many farms as possible for planting in paddy fields.

In this country, the area under winter wheat cultivation is alfalfa then transplanted and planted at a rate of 100-120 kg per hectare. As a result, the yield per hectare was 40 centners. Hectares used in production conditions in breeding groups and units instead of planting 240-260 kilograms of seeds, 140-160 kilograms are planted. A wide variety of wheat varieties Aurora and Caucasus 60-70centimeters, obtained by sowing 25 kg of seeds per hectare in a two-row or 45-centimeter row row when multiplied by a method the yield reached 60 cents. Then the multiplication factor is 240was.

Sowing in these ways enhances the expansion of the plantations, their productive reproduction, led to an increase in productivity. Used in the seed system variation in breeding areas takes place in 3-4 years is carried out. These terms are shorter in the conditions of our country may be variety renewal - sort purity and biological quality of the same variety replace the seeds with poor performance, with good quality, high-yielding seeds of that variety.

When varieties are planted in production conditions for many years, their quality gradually deteriorates, and the quality of the crop

and product decreases. This is due to the mechanical and biological contamination of the seeds, caused by a change in symptoms.

The main reasons for the deterioration of the varieties are as follows consist of:

- when breeding seeds;
- when agricultural activities are conducted at a low level;
- seeds of other varieties and crops of seeds mechanical contamination with;
- due to non-compliance with the isolation rule, the pollen was pollinated with flower pollen of other varieties and its household deterioration in the quality of its valuable properties;
- sort as a result of damage to diseases and pests in radical change;
- when selecting plants without checking the fertility rate, the yield of the variety is reduced.

In industrial conditions, it is planted for the above reasons the quality of the variety is very difficult to prevent. In households varieties may deteriorate slowly or rapidly. This is the case it also depends on the culture of the farmland.

Prevention of declining yields and reduced yields breed renewal for, i.e., low group (category) replace the seeds with the better quality seeds of that variety rotten. The importance of making the variety update more organized and timely is not inferior to the importance of sorting.

Procedure and deadlines for conducting a variety update on production provincial, district administrations and carried out by special breeding institutions. These measures local conditions, biological characteristics of varieties, economical the level of usefulness and so on should be taken into account.

In winter and autumn-spring wheat, barley, rye sort update every 5 years.

IV. ABOUT SELECTED SEEDS AND GROUPS

The first seeds for breeding that are sent by selection and seed plant are called fetus. Fetus contains the yield and other characteristics of the cultivated variety to the seeds of the best plants that they retain and pass on to future generations it is said.

Best specimens are the seeds that are extracted from the fetus through the seed. The best seeds are the best yield, variety and high quality should be distinguished by planting quality.

Selected seeds are harvested from the best crops.

Arches (reproduction) - the annual reproduction of seeds refers to the seeds taken in turn. Selected seeds are sown. The 1st arch, the 1st arch is planted and the 2nd arch is taken, and so on.

Seeds are sorted, i.e. 1st, 2nd in purity and divided into 3 groups (categories). Seed sorting according to the results of field analyzes (approvals) is determined.

Variety is the main variety in the seed field called purity the number of plants to the total number of plants in that area is expressed as a percentage and is expressed as a percentage.

V. ARRANGING OF WHEAT FETUS IN PRODUCTION

Every farmer in the breeding system of our country is engaged in farming and other grain farming enterprises should cultivate the required amount of high quality seeds. The heads of those households have a strong responsibility to carry out their work they attract.

Breeding groups, units of various agricultural machinery, machines, tools, fertilizers, etc. must be provided first and foremost. Farmers' associations are self-employed draws up a plan to fully supply the good quality seeds of the varieties. The plan is by the district and provincial governments are confirmed. Then the total that will be needed for next year's harvest a plan is being drawn up. It is the seeds that need to be prepared by variety also includes a plan. Divided by households the seed fields given are well-selected, large-seeded should be provided with. Those seeds are the seeds that the household needs should be sufficient for production. Seeds are needed the amount is determined in the following order.

The main directions of increasing the productivity of seeds are sowing is to use large, weighted, side-selected seeds for. Seeds scientifically developed in wet groups and sections crop rotations should be introduced. The crop rotation is all seed should create the most favorable conditions for plant growth in the fields. The crop rotation in them is caused by diseases, pests; weeds must prevent the spread of weeds, the appearance and variety of pollen through pests.

Table 1

Determining the required amount of seed fields

| Crop, Sort | Winter, winter-spring wheat harvest next year seeds needed for | | | | Sum of needed seeds, <i>t</i> | Seed fields harvest, <i>s/ga</i> | Clean of the seed cost, <i>s/ga</i> | The amount of seed fields, <i>ga</i> |
|-----------------|--|-----|----|-----|-------------------------------------|---|---|--|
| | | | | | | | | |
| Berkarar | 100 | 200 | 20 | 3,0 | 23,0 | 30 | 22,0 | 115 |

In the conditions of our country, seed wheat is alfalfa, after cereals, cotton, vegetables, and it is convenient to plant in clean plowed areas.

VI. PLANTING OF VARIETIES IN THE FIELD

The location of each crop should be determined in advance. Different crops or self-pollinated varieties are theirs when mixed isolation strips 2-3 meters wide should be placed between them. Any other cultivated, well-cultivated crop should be planted in the fields.

Seeds of the cultivated variety should only be sown in the seed field by compulsory treatment. Those seeds the 1st group of hygiene, i.e. the sowing quality, must belong to the 1st class. Edge germination when such seeds are sown plants are exposed to drought, frost, diseases and pests becomes more stable. Planting method in seed field, sowing depth, sowing should be carried out in acceptable ways and seed wheat should be sown at the best possible time. Seeds are the most abundant when sowing grains the most convenient is the method of sowing in a row. Seed in this way on each side of the sower, 1-2 sores of the farthest sowing holes of the sowing tool are closed, leaving 20-30 centimeters wide tracks not planted. Benefits of road and sort cleaning create. Prior to sowing, the agronomist reviewed the seed sows must be completely cleansed from the seeds of the sown crop. Then you need to adjust the required sowing size.

Seed field registration. This work is the head of the household agronomy, breeder agronomist, breed group or unit they perform together with their supervisor. From full germination they then inspect

the seed fields and say, “Seed a letter of acknowledgment of verification of the division of the area”. This is recognition the letter contains the seed area of each crop and variety land, its size, quality of sown seeds, planting time and vegetation the status is displayed. The letter of acknowledgment is written as follows.

Table 2

**Acknowledgement of control of fetus of farm
October, 20 in 2021**

| Name of plant | Variety | Planted field | | | Pre-sowing plant | Time of sowing | condition |
|---------------|----------|----------------|------------|----|------------------|----------------|-----------|
| | | Total, hectare | Seed field | | | | |
| | | | hectare | % | | | |
| Winter wheat | Berkarar | 200 | 50 | 25 | Alfalfa | 20.09 | well |

After the acknowledgment is made, the seed fields are marked, i.e. the name of the variety on the edge of the field, the back of the seed, the field's dead the boundary and its location are recorded. When this field began to be harvested with a combine, the breeder agronomist carried the first grain sends that field number by vehicle. It is a sewn on top of the pillar of grain.

When a letter of acknowledgment of separation is made and when it is formalized, the name of the back must match the name of the seed being obtained. For example, if a seed is sown by selective recognition when the letter is formalized it should be called the 1st back. If so If the 1st arch is planted, it is formalized as the 2nd arch.

VII. VARIETY AND SEED CONTROLS

In fetus there are always taken into account in the cultivation of high-yielding, high-quality seeds should be kept in the center. It is responsible for the development, dissemination, conservation, distribution and use of research seeds consists of a system. Variety and Seed Research Seed Subordination State Supervision Agency, agricultural organizations and their carried out by representatives, as well as by the experts of the household is carried out. For this reason it is divided into state and economic research.

Variety check - performed by field analysis. In all fields planted with varieties and hybrid seeds, as well in farms, scientific

institutions, which will be used for harvested seed, high schools' educational and specialized seeds variety checks are carried out on wetlands.

The purpose of the event is to increase the area of all agricultural crops the variety consists of providing seeds that meet the requirements of the state quality standard.

The main task of the field analysis is to ensure the cleanliness of the sown crop, weed contamination, disease and pest control consists in determining the degree of damage.

Checking the purity of the seed crop is done by the plant in place, before the harvest. This event is key involves selecting those that do not match the morphological characteristics of the variety and determining whether seeds can be obtained from them.

Seed Control- Performs seed sowing checks on the production, purification, storage and release of seeds. At this event, the seed growth rate, germination, weight of 1000 grains, sort and type mix is determined. This work is on breeding carried out by the State Inspection Service and based on the analysis of seed samples, the "Seed Condition Certificate of Excellence. Its duration is for grain crops 4 months. Seeds that do not meet the requirements of the standard or are not properly tested are called "Analysis Results" the document is issued. For planting only "Seed condition Seed Certificates ».

The purpose of the above measures is to ensure that each farmer has a farm pure, high-quality seeds of the variety introduced into production consists of fully supplying with.

VIII. FEATURES OF FETUS WHEAT CULTIVATION

It is possible to obtain high-yield and high-quality seeds if the conditions for farming are created and agro-technical measures are carried out in a timely manner. The main purpose of producing fruit seeds is to grow large, heavy, healthy, abundant crops. Seeds made from such plants are only the first year of sowing not only has it yielded high yields, it has also had an impact on recent years delivers.

Another way to increase yields is to grow large, is the use of weights, textiles, and side-selected seeds. Opportunity to use the event on all breeding farms bar. Research shows that when sown with high-

quality and high-quality seeds, crop yields increase by 15-20 percent shows the result.

A scientifically developed crop in breeding groups it is very important to introduce circulation. These are crop rotations all fertile fields need to create the most favorable conditions for the good growth of plants, including diseases, pests, weeds should prevent its spread.

The following are some of the ways in which high-quality seeds can be grown good quality should be done in a timely manner: the soil is very well cultivated, the preparation for sowing, the complete observance of the fertilizer regime, the sowing timely delivery and uninterrupted irrigation, use of weeds and herbicides against weeds, reliable protection of plants from diseases and pests, harvest perennial harvesting, perennial weeds as soon as they mature partial harvesting of dense grasses (reeds, reeds, etc.) using the method.

Phosphorus and potassium fertilizers have great importance in growing high yields of good sowing seeds. Of plants good supply of these fertilizers enhances their resistance to drought, cold, disease, strong root complex contributes to the formation



Figure 18. Wheat sowing

As it is known from the scientific literature (1986–1988), although the seed only increases the yield of nitrogen fertilizers to wheat, it has a detrimental effect on its quality, their germination is reduced, the growth of the roots of later generations is inhibited, and

disease resistance is weakened. When the seeds of such plants are sown next year wheat yields are 2.4 centners less per hectare. Seed the number of infected seeds is 2-3 times that of phosphorus fertilizer decreased. Potassium fertilizer contributes to the accumulation of starch in seeds and contributes to improved seed quality.

According to scientific data, nitrogen and phosphorus fertilizers have a special place in gray soils. Seed wheat is early in the morning supply of nitrogen fertilizers with an effect of 30-45 kilograms per hectare contributes to higher yields and improved seed quality. Based on the experience of scientific institutions and leaders depending on the pre-winter wheat crops in the irrigated areas hectare N 60-150, P₂O₅ 60-120, K₂O It is recommended to give 40-60 kilograms (in the active substance).

By the decree of our esteemed President, sow the seeds in wheat norms are set at 25 per cent more than the discounted price.

IX. CONDITIONS AND MEASURES TO BE DONE IN THE FETUS OF WINTER WHEAT

All agro-technical measures for high-quality and high-yield sowing of wheat are carried out in accordance with scientifically established rules and deadlines rotting is very necessary.

Fundamentals of the conditions that must be met when breeding wheat: breeding households must be fully equipped with technical equipment, they take agro-technical measures in a timely manner, in an organized manner the necessary equipment and tools for delivery should be provided.

Seedlings should provide high quality seeds. Therefore the level of agro technical measures used in their cultivation should be higher than normal. They are clean of weeds and water the supply should be in good, fertile soils.

From their contamination in the cultivation of seed crops special attention should be paid to protection. For him in the breeding business a number of rules must be followed. They consist of:

7. Selected or first-rate seeds from scientific institutions

Upon receipt, their bags are found to be safe and their records comply with the shipping documents. The relevant document (certification) of the acceptance of the seed is drawn up and the seeds the back-end certificate is handed over to the warehouse. Seed bags it

is forbidden to remove the record before sowing, especially to remove it the group is formed. The group consists of the head of the household or his including deputy, breed agronomist and warehouse. The group checks that the inscriptions inside and outside the seeds are consistent. The seeds are stitched or tightly tied in bags it is recommended to carry only on designated routes. Seeds are not allowed to be transported over sown areas of other varieties or crops.

2. Before sowing, the sower is well cleaned: then from the previous sown crop should not remain in a single grain. After cleaning, disinfect is done. After sowing, the sower should be cleaned in the sown area of the previous variety, and during sowing the sower should be sown with other varieties or crops it is forbidden to enter the field to be planted. The sown area of the sower sowing is also carried out in areas around the edges.

3. Prevent contamination by seeds to get them, it is not possible to plant seeds of cereals that are difficult to select. Do not contaminate adjacent crops for an area of isolation (protection) 2-3 m wide between them left unoccupied.

4. 50-100 among the varieties so that there is no biological pollution isolated strips up to a meter. Soft with hard wheat the distance of wheat should be 200 meters. Mechanical pollution path all precautions should be taken to avoid. Even more dangerous is the interference in the variety, as it is very difficult to fight it. Seeds of different varieties cannot be selected in machines, but their seeds because it is similar, it is difficult to select.

5. Seeds of wheat are completely clean of weeds should be. They should be thoroughly removed from time to time. Of weeds sidewalks, sidewalks, sidewalks, and vacant lots must be thoroughly cleaned.

6. Mandatory type and sorting rooms must be provided in the seed fields. Except for the main crop in the drawing room the crop should be removed, and the appropriate time for holding this event is wheat it is a time of sowing. Because wheat during this period it is easier to choose barley and chowder. In the view room wheat stalks must be diseased before the plants bloom should be removed in the image.

7. In the variety room, other varieties of the same crop are removed. In wheat There are two varieties of cleaning room: the first room is full of crops. When grinding, hard wheat from soft wheat, clay and clay when it is possible to distinguish the infinite; The second room is during the ripening period of the grain of wheat, the varieties

(heads) of the varieties and at a time when the color of the hairs can be distinguished must transfer. The seed is for the purpose of successful completion of this work a variety to differentiate wheat from other varieties it is important to know their characteristics. View along with the variety room the room must also be completed. Seedlings should be removed from all infected and diseased plants. Upon completion of the form and sorting, a certificate of relevant work is carried out in the seed field. The quality of the work is checked by the team leaders.

Table 3

Symptoms of differences of soft and hard varieties of wheat

| № | Symptoms | Soft wheat | Hard wheat |
|----------|--|---|--|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
| 1 | Swollen (head) | Swollen or hairless cylindrical, needle and prism images are rare is coming | Hairy (hairless look rare), cylindrical |
| 2 | Hairy | It is equal to swollen or even more short, spread side by side and slightly spread, sideways close to | Longer than the sum and grows vertically, parallel (parallel) |
| 3 | The snout of the letter | The shape of the bottom is pressed, along the way | The bottom is not pressed, smooth |
| 4 | Clay is a snail outer flower letters (2 items) | Straight, often, faint noticeable, many sharper in properties indicating | Open-minded, wide enough |
| 5 | The clay tooth (hairy species) flower of letters at the top growth Often, enough length, tip sharpened | Often, enough length, tip sharpened | Often, short, towards the bottom spread out, sometimes bent into |

Continue of table 3

| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|--|---|--|
| 6 | The main pillar is his in each case a squirrel located | Most of the time, the snails is not fully closed with (by two rows when you look at it) | Closed with snails |
| 7 | Grains | Spinning (formerly) shaped, short, glass shape is low, inside | Stretching, long, glass high shape, Glitter In a nutshell, in a cross section round longer, longer ribs small, medium large, large Often, very large |
| 8 | The embryo | The embryo is round, at least in abundance bent over | Longer, bubbly |
| 9 | Cotton (grain) at the top) | Often, the obvious is the | little bit obvious |
| 10 | Grinding | is easy, some difficult in their properties | More difficult |
| 11 | Strawberries (below stem) | The inside is empty or soft with core (parenchyma) lightly filled | Strawberry soft core (parenchyma) dense with filled in |
| 12 | sprouts | Thickness of hair or thick hair | without hair |

8. Seed area cleanliness should be checked every year. Variety of authenticity, purity of variety, degree of disease at the beginning of the full ripening period of the seed crop, when the plants when the morphological structure is fully revealed, it is determined by field analysis. Field analysis certification serves as a basis for obtaining a variety certificate.

9. Harvesting seed wheat is very quick and short must transfer. Preventing grain contamination during harvesting the following rules must be followed:

- grain harvesters, grain transporters before harvest vehicles should be inspected and repaired in a timely manner, as well

continuation of grain-accepting businesses and outlets are also in full swing this season must be prepared. Uninterrupted operation of grain harvesters for temporary closures, ditches, ditches and areas should be well leveled at a distance of 10-12 meters;

- 5-6 days after the full ripening period of the grain harvest if harvested over time, the grain loss will be less. How much does it cost the longer the delay, the greater the loss. According to scientific data, If the wheat crop is harvested 15 days after the full ripening of the grain, even the strong varieties of straw, which do not scatter from the grain, grain loss is at least 2-3 centners per hectare. Collection grain losses during the period are due to mechanical, grain harvesting operations, grain transportation and recycling consists of functional, as well as physiological losses;

- The mechanical damage is due to the spillage of the grain from the spout and the fracture of the spear. They are due to the living (biological) characteristics of the wheat sorghum, the weather conditions strong winds, rainy weather, as well as mechanical damage caused by plant diseases and pests. Harvest of wheat losses more when carried out at normal times and in favorable weather conditions does not exist

- losses related to the operation of grain harvesters non-cutting of straw straws, full-fledged shrubbery or cracking of small grains, caused by mixing with straw. These losses collection dates and methods for their absence or reduction the right choice, the harvesters of the grain harvesters, the breakers of the harvesters should be well adjusted, the harvesters should be harvested at the normal height, the field should be weeded must be weeded;

- losses in grain transportation and processing in the grain are mainly good up to a set of roadways, threshing floors, grain clearance areas is more likely to be unprepared. Prevent these losses to remove the grain, you must cover the holes of the grain transport vehicles with foam and cover the grain with a cover to press

- to the point of acceptance of grain unloaded from combine harvesters with the name of the crop, the variety, the back, the field list document must send together. Each variety for processing grains in the threshing floor on the back, separate areas 10-12 meters away from each other should be allocated.

In achieving less grain loss during the harvest of the grain spilled after the wheat of the combine harvesters quantification is one of the

mandatory measures. One meter for him take a long rubber hose and connect the ends to a round ring and make a list of the grains in the ring and write them down in a notebook.



Figure 19. Mowing of fetus wheat

As can be seen from the table, if the grains inside the rubber ring if the number is 40 or more, those losses are considered unacceptable. In this case, the adjusting masters of the household are the ones who harvest the grain the harness, the breaker, and other tests must be well adjusted.

Particular attention should be paid to the preparation of seed wheat. In order to maintain the purity of the varieties, 5-6 meters wide wheat fields are planted around the seed fields to feed submit the remaining area to the seed. Seed wheat the grain should be harvested when the moisture content is 12-14 per cent, of the damaged grains low yields increase seed yields. The collected seed is transported and accepted separately on the backs of the wheat offspring should be kept separate at the outlets. Once the grain has been harvested, it must be kept under pressure to allow the physiological ripening process to slow down.

The grain purity in the bunker should not be less than 95 percent when the grain harvest is harvested by direct harvesting method. Combine the post-harvest loss is 1.0 percent in the vertical bar area,

1.5 per cent in the area of the fallen stalk, 1.5 per cent of the incompletely broken stalks and grains attached to the straw, 1.5 per cent, the amount of broken and beaten grains should not exceed 1.0 per cent in seed grains and 2.0 per cent in food grains.

Table 4

Determination of grain loss in one hectare field by the number of grains in the ring

| № | Inside the ring number of grains | Harvest loss | | |
|---|-------------------------------------|----------------|-------------------------|--------------------------------|
| | | <i>kg / ha</i> | admission valid, (+) | accept not possible, (-) |
| 1 | 20 | 96,0 | + | |
| 2 | 30 | 146,0 | + | |
| 3 | 40 | 192 | | - |
| 4 | 50 | 240 | | - |
| 5 | 60 | 288 | | - |

Cleaned and dried, with a moisture content of up to 14 percent seedlings should be kept separate from food grains in dry, well-ventilated seed warehouses when delivered to sowing conditions. Seed grains are not only kept separately by varieties, but also varieties should be kept separately on the backs within. Seed storage should be thoroughly cleaned and disinfected in advance. His the suitability of the seed material should be checked. When the seeds are stored in a heap, its height is 2-2.5 meters, 6-8 layers should be knitted in bags. Selected seeds for breeding must be planted in the mouth of the bag. Each seed grade, back, seed grade of seed purity, must have a full weight record. It is the responsibility of the warehouse to save the seeds. It accepts seeds on a certified basis and it is committed to maintaining the quality of the seeds, preventing them from spontaneously heating, damaging, and preventing the spread and spread of pests and diseases in them. Warehouse seeds determine the temperature, humidity, their appearance and smell and they ventilate the house from time to time. Seed germination and growth capacity is analyzed every two months in the laboratory of the State Agency for Reproductive and Seed Testing, sampling and compliance of seed resources with "State Standards" is determined.

X. THE FIRST FETUS OF WHEAT

On the breeding of wheat and other cereals production of selected seeds approved by the Ministry of Agriculture and Environment of Turkmenistan is carried out by research institutions on a planned basis.

The seed production plan is based on the size of the area to be planted and the number of seeds to be planted along the back.

Necessary adjustments to their breeding activities after receiving instructions from the Scientific Institution for the production of selected seeds introduces. Seeds of continuous seed production are abundant is a must-have.

There are special methods and methods of breeding. From them the best option for Turkmenistan is the single-family option, which is The following breeding activities are carried out in this way (Fig. 1).

1. Selecting well-developed, well-developed shrubs that are identical to the prime, selective, or reproductive field.
2. Generation 1 Year Test Site.
3. 2nd Generation Test Site.
4. Seed propagation area (non-seed).
5. Leader.
6. Selection.

The number of choices to be made first, the number to be written off, seeds for field identification purposes reproduction by genealogy is carried out in the following order.

For example, the total area under wheat is 100,000 hectares, the sowing rate is 0.22 tons per hectare, from one hectare cleared and seed yield after selection - 2.2 tons, seed reproduction coefficient - 10 (1 hectare per hectare, and the amount of seed produced when selected).

Seeds and fats needed for breeding and nutritional purposes the calculation of the grain:

- $100,000 \text{ ha} \times 0.22 \text{ t/ha} = 22,000 \text{ tons}$ of seeds are needed.

We find the seed field:

- $22,000 \text{ t} : 2.2 \text{ t/ha} = 10,000 \text{ ha}$ (total sown area 10%).

Food after we know the area to be sown (A3) we determine the area to be planted for:

- $100,000 \text{ hectares} - 10,000 \text{ hectares} = 90,000 \text{ hectares}$.

The amount of seed for planting A3 for food is $90,000 \text{ ha} \times 0.22 \text{ t/ha} = 19\,800 \text{ t}$.

From the required amount of seed through A3 - the seed through A2 -

We calculate the area to be planted and the amount of seed:

- 19 800 t: 2.2 t/ha = 9000 ha A2 area;
- 9000 ha \times 0.22 t/ha = 1980 t A2 seeds are needed.

From the required amount of seed through A2, the seed through A1

We find the area to be planted and the amount of seeds needed:

- 1980 t: A1 should be planted on an area of 2.2 t/ha = 900 ha;
- 900 ha \times 0.22 t/ha = 198 t A1 seeds are needed.

We determine the area under sowing of the selected back seed and the amount of seed needed:

- 198 t: 2.2 t/ha = 90 ha selectively planted;
- 90 ha \times 0.22 t/ha = 19.8 t of selected seeds are required.

We calculate the area under cultivation of the backbone and the amount of seed needed:

- 19.8 t: 2.2 t/ha = 9.0 ha should be planted in the area;
- 9.0 ha \times 0.22 t/ha = 2.0 t seeds are needed.

We determine the amount of seed to be sown in the breeding area of the first seed system and the amount of seed seed to be multiplied by the number of seeds:

- 2.0 t: 2.2 t/ha = 0.91 ha of reproduction (seedless) area;
- 0.91 ha \times 0.22 t/ha = 0.2 t seeds are required by seeding.

A machine to be planted in the 2nd year family test of the first breed we find the amount of seed to be collected from the forts.

- $G1 = (S \text{ seed} \times P \times K1): T = (0.91 \text{ ha} \times 0.22 \text{ t/ha} \times 1.3)$
: 0.005 = 52 kg.

Number of seedlings to be planted in the 1st year seed test:

- $G2 = G1 \times K2 = 52 \text{ kg} \times 1.5 = 78$ large families should be planted.

Selected for planting in the 1st year crop field

$G3 = G2 \times K3 = 78 \times 1.5 = 117$ seedlings, they are bred, sorted, or selected from the selected fields derived from plants.

The following statements are accepted in the formula:

S - is the area to be planted.

P - is the norm of the seed to be given per 1 hectare.

V - is a seed that will grow out of 1 hectare.

T - is the seed that can come out of one family.

G - is the number of choices a family must make.

K - is the correction coefficient.

Selection of selected seeds. Seeds of the institution that created the variety as a primary means for selecting selected plants, or from reproduction, prime, selection sites there may be seeds specific to the variety. Collect selection of selected plants (shrubs) should be carried out before the grain is fully ripe. Selected plants are disease-free, stems that do not fall, stems that grow vertically, abundantly branched, without late buds, lateral (single-stranded), well-developed, multi-grain should be smooth.

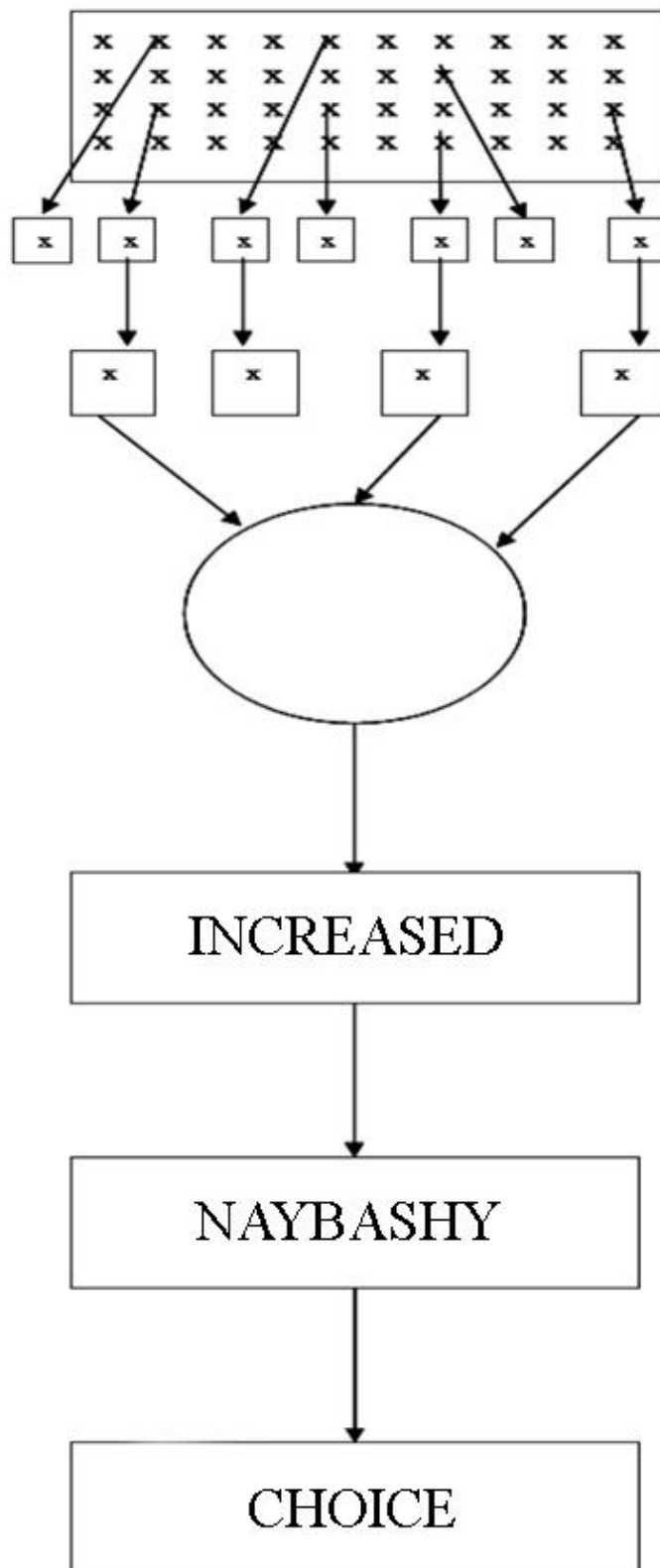
Each of the selected strings is another in the workroom once reviewed, their similarities are determined, are not identical, and those who are ill are excluded from the account. Of each of the remaining summers the grains are individually cleaned and the stone structure, grains admit the color, quality, size, shape of the mirror and other features tea is valued. Does not match the symptoms of the breeding variety grains are written off. Total amount of write-off it's about 30 percent.



Figure 20. The 1st test field of generation

1st Generation Test Site This is May with a single selection method after laboratory analysis in the dance the seeds of the selected sums are sown. Of the generations to be planted the planned number of seed breeds and is determined by the coefficient.

The only family that carries the first seed of wheat was the drawing of the method of selection



1. Sample selection

2. 1st year of generation
test area

3. 2nd year of generation
test area

Seed perfect kinds
combine

4. Reproduction field

5. Top field

6. Selection field

Their number should not be less than 300. The seeds of each of the best selected plants are specially sown in rows 1-5 meters long or sown by hand. Sample for comparison after every 20-30 generations (standard) prime seeds are sown. The sowing line is a normal feed area according to the biological characteristics and varieties of each plant should be provided with. Row wide (60-70 cm) in breeding and seeding frequency (2-5 centimeters) in row, suitable for sowing happens.

The day the seeds germinate during the growing season, the main growth at the beginning of the period, the similarity in the structure (morphology) of plants is determined and taken into account in their resistance to disease and fall, ripening. Standard or non-standard structure according to these characteristics different families are excluded from the account. Productivity and the best families in terms of homogeneity are the 2nd generation of generations after harvesting, crushing, cleaning and evaluating grains is being prepared for planting on a test site.

2nd Generation (Family) Testing Site. This is May to choose the best families for the dance, at the expense of the bad ones used to turn off. The number of offspring (families) planted for study should not be less than 100. Each family is small sown with an experimental sower. Number of rows 2 to 10; The length of the pieces is 5-20 meters. Sample variety after every 20 families is placed. Field controls, registration, evaluation, write-offs are carried out in the same way as the first-generation test site.



Figure 21. *The 2nd test field of generation*

The offspring of the remaining families after subtraction are small is harvested with the help of a large selection combine. The seeds are prepared for sowing in the breeding field after processing. The next breeding activity is high in seeds maintaining and strengthening the purity of the variety, the nature of the crop and ensure rapid seed production.

Seed reproduction should be carried out at a high agricultural level. Seedlings are the best predators of crops (after alfalfa, etc.) sowing, normal or reduced (10-15 percent) to ensure that the crop is sown and cultivated. To do this, use a wide row (60-70 centimeters) sowing method it is convenient. In those areas, it is easier to carry out sorting rooms and write-offs. In the seed fields Plant care – fertilizing, irrigation, Weed control, protection against diseases and pests sorting and sorting of the rooms in a timely manner and must be of high quality. Variety of crops is determined by field analysis.



Figure 22. *Duplicate field*

After harvesting, the seeds are dried, cleaned, selected, and sprayed with chemicals to control disease and pests. Is packaged in new bags and has the name, back, manufacturer, internal and external records of the year of harvest are placed.

XI. FIELD ANALYSE OF FETUS WHEAT

The main task of field analyzes is to determine whether the cultivated areas of the varieties are suitable for breeding purposes consist of For that, go to the seed wheat fields and go to them rotted agro technical measures, sort and type room work, weeds pollution levels are assessed, including quarantine, poisonous, and more harmful weeds.

Every year in Turkmenistan, field tests are carried out on all sown wheat fields. Field analyzes in scientific institutions, research and production farms, higher education institutions training, experience in specialized breeding farms, held in breeding groups of farmers' associations, as well as in fields used for crop breeding purposes.

The area under cultivation of agricultural crops, varieties the volume of analysis of the Ministry of Agriculture and Foreign Affairs of Turkmenistan approved by the Ministry of Environmental Protection. The main purpose of these events is to ensure that households are the best in production full supply of high-quality pure seeds and the creation of reserves, seed preparation consists in achieving the implementation of the state plan. Each year, the Ministry of Agriculture and Environment of Turkmenistan appoints a team of regional analysts to conduct a field survey. Then, on the basis of that order, district working groups are formed.

The task of the analyst is to take the sample bundles and make a proper analysis and certification. To the stated requirements accordingly, the analyst conducts field analysis until the harvest begins and records the suitable fields for breeding completes and prepares and submits the documents.

Analyze the sample bundles in a specially designed house on the farm rotten. Household managers should provide analysts with experienced assistants throughout the analysis, and analysts should carry out explanatory work with them. Auxiliary staff analysis they help the chickens get a bundle.

The analysis reveals the main features of the cultivated variety are taken when it comes out. Obey the rules of conduct of the analysis. The total area set aside for a batch of land should be 450 hectares. From that field the points of the plants to be taken number 150, the total number of branches to be 1,500. Analyzed the number of plants obtained even when the area is smaller. Must be 1,500. For example, from an area of 1,500 meters long. If you need to get a plant from 100 points, divide the area into 15 parts; you have to collect bundles of rock from them. No matter how small the field is, the number of plants to be harvested does not change. For example, if the area is 150 meters long, you should get plants from 10 points. The number of plants to be obtained from each point is 150 should be.

The analyst's assistants were completely immersed in the field, with a mixture of 15 strokes from each point marked on the field they reap. One of them reaps the bundle and the other carries them.

Scientific institutions, research and production facilities, higher two bundles of analysis are obtained from each of the seed fields of the educational and experimental farms of the schools. Each bundle of imagery itself is analyzed separately. A batch is obtained from specialized breeding farms.

If the volume of the analyzed area is greater than the specified amount, if it is large, the analyst divides it into two or more parts, and each of them receives a separate bundle of analysis from one.

The analyst strangles the analysis bundle at the point where it is obtained, and the name of the household, the area, the crop rotation, or the piece field, crop name, varieties, back of the crop places the same inscription on the outside of the bundle hangs.

Bundles should be analyzed without delay for more than two days from the date of receipt. Areas are divided into weeds by weeds and other crops:

- 0 - completely clean of bundles;
- 1 - contains a small number of mixtures;
- 2 - the bundle is moderately polluted;
- 3 - more polluted.

When analyzing the bundles, the straws are strangled in the following order:

- straws of the main variety from every hundred plants;
- by the number of straws of other varieties;
- incomplete and empty head straws of the main variety;

- Seeds of hard-to-select crops (oats, barley, perch and head) will remain) straws and branches;
- weeds that are difficult to select for their seeds;
- diseased straws of the sort analyzed and others.

The number of straws in each piece is tied individually to the total the package is merged and the corresponding records are attached.

It is quarantined and quarantined percentage of straw, twigs other than weeds (%) calculated on.

Field analysis results of winter wheat "Sustainable" an example of this can be seen in the example:

- the number of straws of the Berkarak variety in the batch - 1382;
- straws of other varieties and species - 58;
- seeds of hard-to-clean seeds - 45;
- twigs of weeds whose seeds are difficult to purify - 15.

Total $1382 + 58 = 1440$.

Variety = 1382×100

$1440 = 96.0\%$.

The area under analysis is not contaminated with crops that are difficult to clean level is the main variety of the number of straws of these crops (45), other the sum of the straws of varieties and crops that are difficult to clean percentage ($1382 + 58 + 45 = 1485$) is determined by the interest rate.

Grass Weed Difficulty -

15×100

1485

$= 1.0\%$.

Varieties of hygiene crops (groups) is divided.

Variety: 99.5% - Group I;

98.0% - Group II;

95.0% - Group III.

Wheat sown by seeds of wheat and selectively grain purity should not be less than 99.5 per cent.

In our example, the sort purity of the "Sustainable" variety is group II (category). Variety purity less than 90 percent, purification hardy crops are 5 per cent, and hard-to-clean weeds are 3 per cent many are considered unfit for seed. The fetus wheat in the fields is not subject to analysis. The work of the analyst is completed after the preparation of the "Certificate of Analysis". "Analysis Certificate" to

tenants who grow seed crops is the main document and on that basis additional payments are made.

After drying, additional drying, cleaning and grain sorting by quality is underway. Each of the seeds certificate of Variety in one phase State of Seed in accordance with the single State Standard by the Regulatory Service is given.

If the analyst deletes the seed of the main variety from the account as a result of the field analysis, do not delete the duplicate account must write a certificate.

In the field analysis of seed wheat Seed and variety tests are made using samples prepared by the State Service

Table 5

Agro technical measures for seed wheat cultivation

| № | Measures | Rules of Conduct | Due date | |
|---|---|---|--|---|
| | | | Ahal, Balkans, Mary and Lebap in the provinces | Dashoguz in the province and Lebap of the province north in the districts |
| 1 | 2 | 3 | 4 | 5 |
| 1 | Fetching water before driving (when needed) | 600 m ³ /ha | 15.06-15.08 | - |
| 2 | Herbicide against weeds to sow | Recommended herbicides | 25.06-25.08 | 01.07-10.08 |
| 3 | Before driving fertilize | Course - 10-12 t/ha or 30-40 t/ha for 3 years 1 time, Superphosphate - 250 kg/ha, Potassium chloride - 110 kg/ha | 25.06-25.08 | 01.07-10.08 |
| 4 | Sliding | 25-27 cm deep | 01.07-31.10 | 01.07-01.10 |
| 5 | Leveling | Cross-sectionally | 05.07-10.11 | 10.07-01.10 |
| 6 | Wash the land and the throne to catch their water to prepare (temporary closures, chillies, ridges, pull the trigger split into pieces) | Intermediate: 60 cm: 18-20 cm in depth 90 cm: 23-25 cm in depth in light soil 0.15-0.25 hectares; in medium, heavy soils 0.25-0.35 hectares | 10.07-15.11 | 15.07-10.10 |

Continue of table 5

| 1 | 2 | 3 | 4 | 5 |
|----|---|--|---|---|
| 7 | Seed treatment | Recommended fungicides | 01-30.09 | 10.08-15.09 |
| 8 | Wash and wash water coordination | 2000-3000 m ³ / ha | 15.08-15.11 | 01.08-10.10 |
| 9 | Pre-sowing soil treatment | In light soils 12-14 cm; in medium, heavy soils 14-16 cm | 15.09-25.11 | 20.08-20.10 |
| 10 | Before or during sowing fertilize | Urea - 125 kg / ha | 15.09-30.11 | 20.08-25.10 |
| 11 | Sowing | on the back of the seed depending on 180-220 kg / ha | 15.09-30.11 | 25.08-25.10 |
| 12 | Supplying turmeric water (throne in the absence of water) | 1200-1400 m ³ / ha | 20.09-10.12 | - |
| 13 | 1st time with nitrogen fertilizer feeding | Urea - 125 kg / ha | 10.11-10.12; not given autumn in places 15.02-15.03 | 10.10-10.11; autumn not given in places 15.02-20.03 |
| 14 | 1st catchment water catch | 900 m ³ / ha | 15.11-25.12 | 01.03-10.04 |
| 15 | Herbicides against weeds to sow | Offered Herbicides | When Needed | |
| 16 | 2 nd time with nitrogen fertilizer feeding | Ammonium nitrate - 312 kg / ha | 10.03-15.04 | 10.03-25.04 |

Continue of table 5

| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> | <i>5</i> |
|----------|--|---|----------------------------------|-------------|
| 17 | 2nd Development Water catch | 800-1000 m3 / ha | 20.01-25.03 | 01.04-10.05 |
| 18 | 3rd Development Water catch | 800-1000 m3 / ha | 10.03-15.04 | 10.05-10.06 |
| 19 | Grade 4 catchment water | 800-1000 m3 / ha | 05.04-20.05 | - |
| 20 | For pests and diseases Countermeasures (when needed) | Recommended insecticides and fungicides | During development (when needed) | |
| 21 | Preparation for the Harvest to see | Temporary closures, chillies and fields flatten around | 15-30.05 | 20.05-15.06 |
| 22 | Harvesting | Wheat Harvesting Groups to create | 01-30.06 | 05.06-05.07 |

Note: Recommended agrotechnical rules and deadlines depending on weather conditions may change.

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MANUAL ON WHEAT FETUS

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