**SAMARKAND STATE UNIVERSITY**

**FACULTY OF AGROBIOTECHNOLOGY AND FOOD SAFETY**

# LEARN TO WORK IN THE FIELD

**( *Guidelines for school biology teachers and students* )**

**SAMARKAND-2020**

This guideline describes the ability of each family to grow all the agricultural products they need for their livelihood, using the land efficiently at home. Households also make a big profit from the farm. Of course, the heads of the household on the farm are the parents. Helping them, the children of the program are schoolchildren. There is a saying among our people: "The ***mother of all wealth is the husband, the father is labor*** ." Our children will follow our example if we work hard, grow different kinds of food in the garden and improve our livelihood. Careful conservation of nature and soil and the secrets of its effective use are taught to students at school by biology teachers. Therefore, this guideline has been prepared for biology teachers and students working in the school. The guidelines can also be used by landowners, agricultural professionals, farm managers, and the general public.

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***We will definitely build a new Uzbekistan together with the youth!***
***Shavkat MIRZIYoEV***

**INTRODUCTION**

Every family will be able to use the land efficiently at home and grow not only all the agricultural products they need for their livelihood, but can also see a large income. Of course, most often in the garden work household heads - parents. Helping them, the children of the program are schoolchildren. There is a saying among our people, "He does what he sees in the bird's nest." If we work hard, grow different kinds of food in the garden and improve our livelihood, our children will follow our example. Our children get on our wing and help. At the same time, they learn the culture of the land in the process of working and are brought up to be hardworking.

- Working in the field lifts my mood, - says Zainab Pardaeva. “I am very happy to see that the seedlings I planted and cared for have come to fruition. I want to work harder. We recently planted tomato seedlings in an unconventional way on a 3 hectare plot. They soon came into fruition. Up to 7–8 tomatoes on each stem are much redder in the sun’s taffeta.

During the conversation, the businessman said that timely agro-technical work will not only increase productivity, but also save a lot of money.

He picks up the gold he has worked for. Those who understand this wisdom do not claim, "I am poor, let the state help." Maybe they try to harvest from the fertile soil in their house, to make it flourish. Her actions will be an example to her children as well. In such a home, children grow up realizing that a person can live well only through hard work and diligence, not care. Let's teach our children to work, to work in the fields, dear ones!

## What is soil? How can it be healed?

The porous, fertile layer of the earth where plants can grow is called the soil. Soil fertility is determined by the amount of organic matter, macro and microelements in its composition. In order to improve the soil in the garden, once every three years we need to apply 300 kg of semi-rotten manure on 1 hectare of land or prepare organic compost. To make organic compost, we dig a hole 2 meters wide and 1 meter deep and 1 meter deep from one end of the garden. We fill it with animal manure, plant debris, leaf litter. Mix 50 kg of ammophos in it, cover the top with polyethylene film and cover the top with 10 cm of soil. Here the organic residue will rot and the compost fertilizer will be ready in 4 months. The second way to make the soil healthier is to rotate crops. In the garden, of course, it is necessary to plant legumes such as moss, beans, peas, soybeans. The third way is to prevent the surface part of the soil from being washed away when watering. Let's take care of nature and soil, dear students, dear teachers.

## How do you know if the soil has been prepared for tillage?

To know that the soil is cultivated, we take the soil by filling our palms from a depth of 10-15 cm and squeeze it tightly and drop it to the ground from the height of the chest. If the soil is scattered, it means that the soil is ripe and ready for planting. If the soil falls into the mud without scattering, you have to wait 1–2 days.

## GROWING POTATOES IN THE FIELD

Soil preparation consists of mowing and leveling and harrowing at the same time. An average of 30-35 kg of seeds are planted in one hectare of land. When preparing seed tubers for planting, tubers weighing 30-80 grams are cut whole, and large ones are cut. If the cut ends are mixed with ash for 2 days, a lump will form in the cut area and the seeds will not rot. Planted at a depth of 70 cm between rows, 20 cm between bushes, 7-8 cm. In the spring, it is advisable to plant mainly early-ripening and medium-ripening varieties (Sante, Marfona, Arinda, Arnova, Aladdin, Curado, Rosara, Alvara, Escord, Romano, and Seville) in early March.

**Tomorrow's sowing period will be** from February 10 to March 15 in farms located in the plains of the country , and from March 10 to March 25 in the foothills. In the summer it is planted in the canopy from June 21 to July 5.

**Care.** When the spring drought comes, the fields are lightly watered 1–2 times until the plant sprouts. Potatoes are fed twice during the growing season. The first feeding with urea or ammonium nitrate (2.0-2.5 kg / sotix) during the first row with the onset of germination, and the second feeding with 3.0-3.5 kg of urea or with the second mowing during mating is carried out by giving ammonium nitrate. Potatoes planted in spring are watered 6-7 times (1-2 times from planting to sprouting, 1-2 times from budding to budding, 5 times from budding to ripening). Watering is carried out every 10–12 days.

## Potato pests

**Preventive measures against the Colorado potato beetle.** Ecologically clean potatoes can be grown in the fields without the use of chemicals. 1. Wintering pests and disease-causing microorganisms in the soil are killed when the seedlings are pruned in autumn and watered in the winter chill. 2. It is enough to pick beetles by hand once in the morning and twice in the evening, and schoolchildren will help parents. 3. When planting a potato in the order of a bunch of calendula, the beetle will not be harmed. We do not recommend chemical control measures when growing potatoes in the garden. When used in Moboda, children under 18 years of age, pregnant women, nursing mothers are not allowed to work with toxic drugs (pesticides) in the family. Medication must be performed by specially trained specialists.

## Potato diseases

Diseases occur fusarium wilt, alternariosis, scabies (scabies).

**Chemical control.** During the growing season the plant is sprayed 2 times every 20 days when symptoms of the disease are felt in 10% of the leaf surface. In alternariosis, round brown spots appear on the leaves. In fusarium wilt, the plant withers in the field, and when the stem is cut, the inside of the stem appears brown. In fusarium wilt , phytophthora and alternariosis, one of the following drugs is used: Impulse-25% sus.k. 8 ml of the drug is added to 10 liters of water. Vakomil-MZ 72%. 50 grams per 20 liters of water. AKROBAT MTs 690 g / kg, s.d.g. Consumption rate is 20 g / sotix. Treatment is stopped **30 days before** harvest .

## GROWING TOMATOES

Tomatoes are the most abundant and loved product in the family. It is a product rich in trace elements and vitamins. If you plant tomatoes in your garden, it will become a source of family income. In other words, an average of 500 seedlings are needed to plant tomatoes on 1 hectare of land, and 350-400 kg of product can be obtained from this area.

**Varieties.** Tomato Avicenna, Sultan F1, Amled, Sevara, Istiqlol, Sinfik F1, Volgogradskiy 5/95, Vostok 36, Bahodir, Kenan F1, Inkas F1, Dustlik, Tashkent Tongi, Sharq Yulduz, Somma F1, Uzbekistan, UzMASH-1, Trebol F1 As the growing season is short, fast and medium-ripe varieties are recommended.

In one field, most tomatoes can be grown after two years and then replaced with another crop and planted after another three years.

**Preparing the land for planting.** The soil is dug to a depth of 20-25 cm, plowed and furrows are removed. **Fertilization.** Each hectare of land is given nitrogen - 1.2-2.0, phosphorus - 1.4-1.5, potassium - 1.0 kg.

**Growing seedlings.** If you grow the seedlings yourself, 3.5-4.0 grams of seeds per hectare is enough to get seedlings. Seeds are soaked in pre-sowing water or 0.01-0.05% growth stimulants, micronutrient solution for 10-12 hours, then treated with TMTD or other similar fungicides (chemical drugs used against diseases) (4-8 per 1 gram of seed) gram preparation). Seeds prepared in this way are sown at a depth of 0.5–1.0 cm in early February in a cool specially arranged nursery protected from the sun near the field.

**Sowing time:** Tomorrow's tomato seedlings will be planted on April 10-20, and in the evening from April 20 to May 10.

**Diseases and pests, control:** Tomatoes, aphids, thrips, leaf-eating worms, tomato moth, tapeworms and other pests infect tomatoes. Chemical control. 20-25 days after transplanting, 20-30% of the plant is sprayed with one of the following chemicals during the growing season. The second spraying is sprayed 20 days later.

Alkator 2 grams per 10 liters of water. Aykido 5% li em.k. 10-15 ml of the drug is added to 20 liters of water. Empire 10% s.e.gr. 6.5 grams of the drug is added to 10 liters of water. Jet-Torpedo 15% sus.k. Consumption rate: 0.3-0.4 l / ha. 10 ml of the drug is added to 10 liters of water. Or add 10 milliliters of Deltarin-2.5% to 10 liters of water. Treatment is stopped **30 days before** harvest .

**Tomato flour-dew, leaf spot, mildew, phytophthora, alternariosis, leaf spot, early blackening diseases:** Spray when growing tomato stalks with white powder on the underside during the growing season with any of the following drugs: Shain 10% em.k., 10 liters 15 ml of the drug is added to the water; Conazole-25% 10 ml of the drug is added to 20 liters of water; Vakomil-MZ 72% n.k. 70 grams are added to 20 liters of water. Treatment is stopped **30 days before** harvest .

## ONION GROWING TECHNOLOGY

**Recommended varieties for planting:** early maturing Sumbula, Ak dur, mid-ripening Istiqbol, Zafar, created locally.

**Seed selection.** Sown seeds should be clean, highly germinating, disease-free, whole, heavy. The seeds are cleaned from the seeds and mixtures of other plants.

**Land preparation.** The sown areas will be qualitatively cleared of past crop residues and weeds. The soil is loosened to a depth of 20-25 cm, after the large lumps are crushed, it is well leveled and irrigation canals are taken.

**Sowing time.** Onions are planted in three periods - early spring, summer-autumn and ninety. In spring, onion seeds are sown in the southern regions from January 5 to 25, in the central regions from February 20 to March 10, in the northern regions from March 5 to 25, in the central regions from November 15 to December 15 and in the northern regions from November 1 to December 1. In autumn, it is sown in the northern regions from August 15 to September 1, and in other regions from August 15 to September 10. Onion seeds weigh 1.2-1.5 kg in the spring, 2 kg in the summer-autumn and nineties. is spent. Depending on the slope of the ground, the row spacing should be 70–90 cm. planted in four rows. Seeds are buried in the ground to a depth of 1.5–2 cm. After sowing the seeds are mixed with the husk into the soil.

**Care.** For planting onions in the spring, the furrows are removed in the fall. In the summer-autumn and nineties, onions are planted after the middle, summer vegetables, potatoes and grain. Onions two or three times - initially 6–8 cm in height. when it reaches the point where it becomes a commodity to be bound for the second time, it is fired and made unique. Weeds are lost by softening the rows to a depth of 15–16 cm.

**Fertilization.** Onions are a root vegetable with a poplar root system, located mainly near the top of the soil. Therefore, it requires a lot of nutrients in the upper part of the earth . On gray soils, an average of 30 kg of nitrogen, 22 kg of phosphorus

and 9 kg of potassium should be applied for every 10 sots. In meadow and meadow-swamp soils it is recommended to give 25 kg of nitrogen, 20 kg of phosphorus and 8 kg of potassium. When growing onions in saline, low-quality pasture bald, bald soils should give 32 kg of nitrogen, 22 kg of phosphorus and 10 kg of potassium.

**Irrigation.** The water demand of the crop increases especially during the period of germination and formation of onion heads. Only at the end of the growing season and when the bulbs are ripe does the plant's need for water decrease slightly. On loamy soils with deep drainage, onions are watered every 7–10 days in late spring and early summer. After the growth of the bulb stops, the crop is watered twice at intervals of 12–14 days, and irrigation is stopped one month before harvest. In areas close to groundwater, onions should be watered 7–9 times during the growing season.

**Disease and pest control.** In the fight against onion flies, tobacco thrips, autumn nightshade and other pests from drugs for 10 hundredths: Karate 5% em.k. (30–40 ml), Mospilan 25% n.kuk. (25–30 ml). Fake flour is treated with 1% Bordeaux liquid (6–8 kg / ha of missulfate) against diseases of root rot, mosaic, yellowing, joint rot. It is processed every 10-15 days. Topaz 10% em.k. (12.5–15 ml) or Kurzat R n.kuk. It is recommended to spray the mixture (200–250 g) in 60 liters of water.

**Harvesting.** Onion heads are considered ripe when the onion stalks lie down. Onions are dug up or pulled out along with the stem.

## CHARACTERISTICS OF GARLIC GROWTH TECHNOLOGY

**The following varieties of garlic are grown in** Uzbekistan **:** Uzbek purple **garlic** - early ripening, Andijan garlic - early ripening, tungon garlic - early ripening. Garlic is an onion-like plant that forms a complex onion bulb consisting of shortened stalks and stalks. The leaves are flat, linear, mostly round tubular, adhering tightly to the bases, forming a false stem. The flower stalk (trumpet) of the fertilized garlic passes through the center of the false stem.

A clove of garlic is a bud with one or more growth points covered with a thick, dense flesh. The cloves are attached to the bottom of the garlic and wrapped in a general dry peel. Garlic is a frost-resistant plant. It can germinate at a temperature of 3-5 degrees and can withstand temperatures down to -7-8 degrees. The optimum

temperature for the growth of garlic should be 5-10 degrees in the first period of development, 15-20 degrees during the formation of pods and 20-25 degrees during ripening. Temperatures above 20 degrees will stop the growth of roots. But the varieties of garlic grown in the southern (drought) regions are distinguished by heat resistance. Garlic is best planted in areas where cucumbers, cabbage and potatoes are grown.

**Fertilization.** Organic and mineral fertilizers for garlic are recommended in the following amounts: 20–30 t per hectare of decomposed manure, 200 kg per hectare of nitrogen, 140–160 kg of phosphorus, 60–75 kg of potassium. It is desirable to sow the garlic from the first of September to 15 September. Garlic is grown mainly from the clove. When planting, the weight of the stalks should not be less than 10-20 g.

**The sowing rate is** 8-14 ts per hectare. At the same time you can also sow the seeds of garlic. The sowing rate is 50-100 kg per hectare. Garlic onions are planted in 2 and 3 rows of ribbon, the width of the ribbon and rows should be 70 cm. When planting rows, they are spaced 15 cm apart, and 20 cm in two rows. The distance between the plants in the row is 6-8 cm. So the planting scheme: 50Q20x5-6 cm, 40Q15Q15x7-8 cm . The number of plants per 1 hectare is 450-600 thousand. Garlic is cultivated 4-6 times during the growing season. In the autumn before the onset of winter garlic is watered 2–3 times. In the spring watered a total of 4–5 times.

**Pest control:** onion fly is infested with diseases from fake flour-dew disease. To prevent this, when the plant begins to germinate in bulk, 0.2% technical chlorophos or 0.2% BI-58 solution is sprayed, 2.5 ml of metaphos is sprayed at a rate of 15-20 kg per hectare. 1% burgundy liquid is sprayed to prevent fake flour-dew disease.

## GROWING SWEET (BULGARIAN) PEPPER

Bell peppers are loved and consumed throughout the year at home. One hectare of land requires 500 seedlings of bell peppers, harvested after 50-60 days. Yields average 350 kg per 1 hectare of land. Early ripening Nargiza, Tong, Jayhun F1, middle ripening Zarya Vostoka, Dar Tashkenta, Yulduz, Sabo varieties are suitable for sowing.

**Seedling preparation and selection.** Planted sweet pepper seedlings should be 40–45 days old, with 6–7 leaves, vigorously developed stems and roots, dark green leaves

and healthy. 8-10 grams of seeds are planted to prepare seedlings for one hundred square meters. Seedlings are cared for like tomato seedlings and the land is prepared for planting.

**Planting scheme.** Sweet pepper seedlings are planted 70 cm between rows and 30 cm between bushes. Tomorrow's seedlings will be planted on April 10-20, and in the evening from April 20 to May 10.

**Care.** The first treatment of plants begins 10–12 days after planting. This loosens the soil between the seedlings, rows and seedlings. 12–15 days after the first treatment, the second watering is given. Once the soil is ripe, it is chopped again. In this case, the soil is cleared of weeds, loosened, the soil is pressed around the seedlings. In order for a sweet pepper plant to grow well and produce abundant fruit, the layer where its roots are located must be supplied with air. For this purpose it is desirable to pour the water between the branches.

**Fertilization.** Sweet peppers are more effective when organic and mineral fertilizers are applied together. 200-300 kg of manure, 1.5-2 kg of potassium chloride, 2.3-2.5 kg of ammophos are applied before autumn plowing. In general, in gray soils nitrogen is given at the rate of 1.2–2.0 kg, phosphorus - 1.4–1.5 kg, potassium per 1 kg.

Sweet pepper is a water-demanding plant, it is irrigated 10–12 times during the growing season in deep groundwater, and 8–10 times in ground meadow and meadow-swamp soils. In deep soils, it is irrigated every 8-12 days until it is harvested, and in 5-7 days when the crop is fully ripe. Excessive sweet pepper can cause wilting, so watering should be stopped when the soil moisture is 5-10 cm from the plant stem.

Disease and pest control is given on the subject of the cultivation of oysters.

**Harvesting.** Sweet pepper is a very unique plant and its fruit can be eaten both blue and red. If sweet peppers are harvested in the blue, the yield will be relatively higher. If not harvested in the blue, it turns red in 20-30 days, and the fruits contain a lot of vitamins A and C. When harvesting, try to cut the fruit, otherwise the crop branches may break.

## GROWING PEPPER

A lucrative crop of hot peppers. He said, "I will pay your debt to the farmer for forty years." 500 hot pepper seedlings are required for 1 hectare of land. From 1 bush of hot pepper seedlings can yield up to 0.5–1.0 kg. 1 sotix of land, ie 500 bushes, weighs an average of 350 kg. Tomorrow's seedlings will be planted on April 10-20, and in the evening from April 20 to May 10.

**Varieties:** Margilan-330, Pikantnyy, Uchkun, Tillarang, Mumtoz, Said. Preparing seedlings for hot peppers, choosing, preparing the ground for planting is the same as planting sweet peppers. Just don't plant sweet peppers and hot peppers close to each other, pollinated sweet peppers from each other will also become bitter.

**Sowing time and scheme.** Hot pepper seedlings are planted in the southern regions in the third decade of March, in the central regions in the second-third decade of April and in the northern regions in the third days of April and May in the 70 × 20 cm system, in areas near groundwater in the 90 × 20 cm system.

**Care.** The first treatment of plants begins after the seedlings are caught, ie 10–12 days after planting. This loosens the soil between the seedlings, rows and seedlings. 12–15 days after the first treatment, the second watering is given. Once the soil is ripe, it is chopped again. In this case, the soil is cleared of weeds, loosened, the soil is pressed around the tomato seedlings. In order for a hot pepper plant to grow well and produce abundant fruit, the layer where its root is located must be supplied with air. To do this, it is desirable to keep the water in the middle. Fertilization. In the cultivation of hot peppers, 7.6 kg of ammonium sulfate, 2.6 kg of ammophos, 1.6 kg of potassium chloride are applied per 1 hectare of land.

## GROWING UP

**Eggplant varieties:** Aurora, Zamin F1, Feruz.

**Seed selection and seedling cultivation** . It takes 6-7 grams of seeds to get enough seedlings for one sale. The seeds are soaked in pre-sowing water or a solution of micro-fertilizers and growth stimulants for 10-12 hours, after which the seeds are treated with pesticides. Seeds prepared in this way are sown at a depth of 0.5–1.0 cm in early May in a cool specially arranged nursery protected from the sun near the field. It is desirable to keep the temperature at 15-20 $^{0}$C until the grass appears , and 20-25 $^{0}$C after emergence. Seedlings are thinned if necessary. During the growing season it is fed, watered, weeded. After 40–45 days, 6–8 leaves are ready for planting in the field in late June. Seedlings are planted in the morning or late cool irrigated fields.

**Preparing the land for planting** . The main crops are cleared of field debris and lightly irrigated. The soil is leveled by plowing or plowing. Then the furrows are taken for planting.

**Sowing time** . Tomorrow's seedlings will be planted on April 10-20, and in the evening from April 20 to May 10. For re-planting, it is recommended to plant saplings in Samarkand region in late June and early July.

**Care.** The first processing of plants begins when the seedlings are fully captured. This loosens the soil between the seedlings, rows and seedlings. The second watering is given 12–15 days after the first care. Once the soil is ripe, it is chopped again. In this case, the soil is cleared of weeds, loosened, the soil is pressed around the seedlings. The layer where the root is located must be supplied with air for the azalea plant to grow well and produce abundant fruit. To do this, it is desirable to keep the water in the middle.

**Fertilization.** Organic and mineral fertilizers are more effective when applied together. Nitrogen is given at the rate of 2 kg, phosphorus - 1.5 kg, potassium - 1 kg per 1 hectare. Boyimjon is watered 8–10 times, on average, every 8–12 days.

**Fight against pests and diseases of bell peppers, hot peppers and thyme**

**1. Pests such as rust beetles, spiders, thrips, rodents** are sprayed once before flowering with one of the following drugs, once at the beginning of fruiting: Pilora 24% s.k. 10 ml of the drug is added to 20 liters of water; Vapkomik Gold adds 3 milligrams to 20 liters of water. For insects such as aphids, beetles, leafhoppers, aphids, caterpillars: Ed-Topo, add 3-4 milligrams to 20 liters of water.

**2. Flour is** sprayed once before flowering, once before flowering, one of the following drugs **against diseases such as dew, leaf spot, mildew** : Azoxifen, 10 ml of the drug is added to 20 liters of water; Conazole, 10 ml of the drug is added to 20 liters of water. These chemicals should be used under the supervision of specialists. School children are not allowed at all.

**Harvesting.** When ripe, the fruit grows larger, the skin turns dark purple and the surface is shiny.

## GROWING CUCUMBERS

**Recommended varieties for planting:** Alibi, Asterix, Regal, Ajax, Superina from Uzbekistan-740, Zilol, Orzu, Parad, Konkurent, Navruz, Omad, Talaba and Dutch F1 hybrids. Consumption of seeds is 50-60 g per 1 hectare of land .

**Seed selection:** Sown cucumber seeds should be clean, highly germinating, disease-free, medium-sized, whole (unbroken), lean, flat (undamaged). The seeds are cleaned of seeds and mixtures of other plants. Seeds are soaked in warm water for 1–2 hours before sowing.

**Land preparation:** Seed fields are qualitatively cleared of past crop residues and weeds. 1 hectare of land is filled with 200 kg (2.0 tons per 10 hundredths) of rotten, weed seeds and manure-free manure. Along with rotten manure, 75% of phosphorus and 75% of potassium are applied to 1 hectare of land. This corresponds to 1.6 kg of ammophos and 1.2 kg of potassium chloride. The soil is loosened by mixing with rotten manure and mineral fertilizers to a depth of 20–25 cm, large lumps are crushed, well leveled, irrigation ditches (floor) are obtained.

**Sowing period: In** order to provide the population with cucumbers during the season, open fields in the southern regions on April 1-10, in the central regions on April 10-20, in the northern regions on April 20-30, in the medium term on April 20 in the south, on May 1-10 in the central regions. in the north it is planted from 1 to 15 May, in the south from 10 to 20 July, in the central regions from 15 to 30 June, in the northern regions from 15 to 25 May.

**Seedling planting scheme:** Seeds are sown in the range of 70 + 140x40 cm in the 2nd - 3rd decade of March under film cover for the cultivation of tomorrow's crop. In the open field is planted by hand at a depth of 4–5 cm in the scheme 70x30, 90x20 cm. Consumption of seeds is 50-60 g per 1 hectare of land (500-600 g per 10 hectare).

**Care:** Sprouting seedlings is done first after entering the seed leaf stage, and second time after entering the single leaf stage. Has been using the power of the hand with a hoe to a depth of 15-16 cm, the area around the plant should be softened, cultural, food and water. During the growing season, after every two or three waterings, the row spacing is loosened to a depth of 15-16 cm.

**Fertilization:** Cucumbers are fed with one hectare of soil ammonium sulfate - 5.8 kg, ammophos - 2.2 kg, potassium chloride - 1.5 kg without physical weight. In terms of water demand, cucumber ranks first among vegetable crops. Cucumbers require a lot of water, especially during the ripening and fruiting period. Early cucumbers are watered

14-15 times during the growing season, late cucumbers are watered 10-11 times during the growing season and 10-9 times during the growing season.

**Disease and pest control: If** cucumber seeds are sown in early spring, then they are sown with dry seeds. When the soil is well warmed, the seeds are soaked in water for a day before sowing. It is recommended to disinfect the seeds by spraying on 1 kg of seeds (2% Vitavax, 1.5% Previkur).

**Cucumber pests include** canes, flies, aphids, thrips, aphids. During the growing season of the plant, 10 days in the ground, 20 days before harvesting against canals, 25% moistening powder Applaud- 50 g or 20% n.powder Mospilan is sprayed at the rate of 25-30 g. Diseases include anthracnose, peronosporosis, ascochitosis, spots, bacteriosis and flour dew. Against diseases 25% s.p Bayleton 100-200 gr, 72.2% s.e.k Previkur 150 ml, Kurzat R 200-250g, 68% s.d.g Ridomil gold 200-250 gr or 1% burgundy fluid can be applied. A mixture prepared from 60-70 liters of water is used.

**Harvesting:** Harvested fruits should be harvested from a size greater than 5 cm. When harvesting the fruit should not damage the branches. It is also possible to cut the fruit.

## GROWING CABBAGE AND RED CABBAGE

**Varieties.** It is recommended to sow Juneskaya, Nomer-1 Gribovsky-147, Navruz varieties of white cabbage and Parel F1, Farao F1, Mirror F1, Balbro F1, hybrids and varieties of red cabbage Kamennaya Golovka - 447, Primero F1.

**Location selection.** Well-fertilized, nutrient-rich, moistened cool soils are suitable. The role of crop rotation. In one field white cabbage is planted once in 3 years. Tomorrow potatoes, cucumbers, melons, legumes and cereals can be planted as a repeat crop on vacant lands.

**Growing seedlings.** 350-400 grams of seeds are enough to get one hectare of seedlings. Seeds are soaked in pre-sowing water or 0.01-0.05% solution of growth stimulants, micronutrients for 10-12 hours. It is then treated with fundazole or other similar fungicides (4-8 grams of drug per 1 gram of seed). Seeds prepared for such sowing, seedlings are grown near the field. Seedlings are thinned if necessary, fed during the growing season, watered, weeded, transferred to the field after the formation of 4–5 leaves.

**Preparing the land for planting.** Small plots are plowed by hand, and large fields are plowed to a depth of 22-25 cm after plows are tied to a T-4A tractor and plowed, plowed, plowed and furrowed.

**Fertilization.** 20-30 tons of manure, 150-200 kg of nitrogen, 100-130 kg of phosphorus and 75-100 kg of potassium per hectare for growing early and late cabbage in gray soils, and 120-150 kg of nitrogen, 120-150 kg of phosphorus and 60- 100 kg of potassium is given. 70-75% of phosphorus and 50% of potassium are added when plowing. The remaining 25-30% of phosphorus is given at the time of transplanting, 40% of nitrogen fertilizers are given at the first feeding after planting, the remaining 60% of nitrogen and 50% of potassium fertilizers are given at the beginning of cabbage planting.

**Seedling planting time, thickness and scheme.** In Samarkand region, late cabbage is planted from June 15 to July 15. Row spacing is 70 cm, bush spacing is 25, 30, 40 and 50 cm, depending on the navigation, and 28-30, 36-37 and 47-57 thousand seedlings are planted per hectare.

**Care.** After capturing the seedlings, the first complex treatment between the rows is done, the row spacing is softened, fed, and the plant throat is cut by hand. A total of 2-3 times between rows is processed. The field should always be moist. Evening cabbage is watered 11–12 times in deep gray soils, and 7–9 times in shallow soils.

**Diseases and pests and their control.** Cabbage lice, aphids, moths, white butterflies:

**1. Biological struggle.** When cabbage seedlings begin to develop, golden-eyed eggs are brought from the biolaboratory and placed in greenhouses and gardens.

**2.** Sulfur soaked in **low-toxic** water is prepared by mixing it with washing powder. Because sulfur is insoluble in ordinary water. Preparation: Prepare a foaming solution by adding 30 g of washing powder to 10 liters of water, add 300 g of sulfur powder to this solution and mix well. Cabbage seedlings are sprayed with this solution for the first time after planting when the first sap is detected. It is then sprayed again when the syrup falls again.

**3. Chemical struggle.** With one of the following chemicals, when the top of the cabbage leaves begins to be covered with a swarm of lice during the growing season, only one of the following drugs is sprayed once: Aikido -5% em.k. 10-15 ml of the drug is added to 20 liters of water; Agrofos D. sprayed 1.0–1.5 liters per hectare. Sprinkle by adding 15-20 ml to 10 liters of water. Agrofos Extra; Deltarin-2.5% is added to 10 milliliters per 10 liters of water. Treatment is stopped **30 days before** harvest .

**Against cabbage moth and nightshades**

**1. Biological struggle.** Twenty days after planting the cabbage seedlings, a trichogram is brought from the biolaboratory and the mouth of the jar is opened in the middle of the greenhouse or garden. After another 20 days , *the gabrakon is brought from the biolaboratory.*

**2. Chemical struggle.** During the growing season, the edges of the cabbage leaves are sprayed twice (every 15 days) with one of the drugs given when the worms and moths begin to gnaw. Empire 10% s.e., 5 grams of the drug is added to 10 liters

of water; Protect drug does not reduce its effectiveness even at high temperatures and retains its effect for up to 15 days. Consumption rate is 0.2-0.3 kg / ha; Kinmiks 5% em.k. Consumption rate is 0.15-0.2 l / ha, sprayed 2 times per season, during the growing season of the plant; Fury 10% s.e.k. Consumption rate is 0.1 l / ha, sprayed 2 times per season, during the growing season of the plant; Fufanon 57% em.k. Consumption rate is 0.6-1.2 ha / l, sprayed 2 times per season, during the growing season of the plant; Fenkill, 20% em.k. Consumption rate is 0.2 l / ha, sprayed 2 times per season, during the growing season of the plant; The most effective and inexpensive : 1 pack of ZORRO is added to 5 g - 10 liters of water. Highly effective against aphids, moths, moths and moths. Benzophosphate, 30% n.kuk. Consumption rate is 2.0-2.3 kg / ha. Sprayed during the growing season of the plant. Use in early varieties is prohibited; Tsipermetrin 25% em.k. Consumption rate is 0.16 l / ha during the growing season of the plant, sprayed 2 times a season. Treatment is stopped **30 days before** harvest .

**Collection.** Harvested cabbage heads are harvested by hand 2 times in November when they are compacted and hardened. Karamboshi is cut from the band with a knife. It is then cleaned, leaving 1-2 leaves and sent for sale or storage at home.

## GROWING CULTURE AND BROCCOLE

It is recommended to plant cauliflower hybrids Lateman, Goodman varieties, Skoivoker F1, Altamira F1, Fargo F1, Kashmir F1. Another type of cauliflower is broccoli, which is a vegetable crop of asparagus. It is also consumed in green, blue, purple and white heads. Growth period is 135-150 days. It is advisable to plant hybrids of broccoli Tiburon F1, Coronado F1.

Cauliflower is grown as seedlings to grow both simple and noble, but he was the highest-day 18-22 $^{0}$C and 10-14 at night $^{0}$S grown with the conditions. When sown as a secondary crop, cauliflower and broccoli seeds are sown in specially arranged cool nurseries in mid-June. Seedlings grown without pots are planted in the field in late July and early August, when they produce four or five leaves, and those grown in pots produce seven or eight leaves. Cauliflower fertile land should be separated from their son. One hectare of 10-15 tons of manure 300-400 kg of ammonium nitrate, 500-600 kg superphosphate and 100-200 kg of potassium salt is recommended. Cauliflower is planted between rows 60-70 cm and between rows 30-35 cm.

**Caring for cauliflower** consists of watering 7–8 times, pruning 1–2 times between rows. Protecting cauliflower heads from overheating and burning under the influence of sunlight is one of the important conditions of agricultural technology. So you

should try to shade it from the sun. Unprotected cabbage heads lose their white color, nutritional value and taste, and scatter prematurely. For shading, the outer leaves are folded over the cabbage, it is better to wrap some of the outer leaves around the cabbage heads. Cauliflower and broccoli ripen in late September and early October, with the weight of each cabbage being 500 grams or more.

## Growing carrots, turnips, radishes, beets

**Sowing time** . In Uzbekistan, root vegetables are grown in 3 periods: in early spring, late February to early March (carrots, beets), in summer from June 15 to July 15 (carrots, beets), radishes and turnips in late July, early August, before winter from November 15 to December 10 (carrots are imported from Europe varieties, beets). Crops can be sown as main and cereal and early vegetable crops, as late (repeated) crops (carrots, beets (beets), radishes and turnips) after harvest. Their attitude to soil and air temperature is similar to that of ordinary cabbage, radishes and turnips are resistant to cold, and beets are heat-demanding.

Radish and turnip are demanding to soil and air moisture (80-90%), while carrots and beets are less demanding. Root vegetable crops are not demanding on soil nutrients. It is not recommended to apply organic fertilizers to them.

**Varieties.** Carrot Red Mirza, Yellow Mirza, Puma F1, Tsirano-berlikumer, Cascade F1, Ornamental, Baraka 228, Mshak 195, Nantskaya 4, Nurli 70, Shantane 2461; beet Bordeaux 237, Boro F1, Boltardi, Diyor, Captain; It is recommended to sow radish varieties Margelanskaya, Andijanskaya-9 and turnips Namanganskaya mestnaya, Samarkandskaya mestnaya, Muyassar.

**Location selection.** The next day potatoes, white cabbage and cucumbers are planted in the vacant lands.

**Fertilizing.** Root vegetables, food ingredients are not too demanding. Therefore, the average standard fertilization on soil nitrogen average of 200-220, 180-200, potassium, phosphorus 80-100 kg physical weight. 100% of potassium, phosphorus, 70-75% of the sowing drive, and the remaining 25-30% of the phosphorus, nitrogen feeding for the first time - 2-3 chinbarg, root for the second time is formed. 2 times smaller plots of hand-weeding. If there is a large area planted instead of wheat against annual weeds under 8-10 cm of the soil herbicides treflon 0,50-0,75 kg per hectare planted in the account shall affect the plant ko'karguncha Linuron, Prometrin and Propazin 2.5-3.5 kg is used in moderation . The plant sprouted, making sure it 1-2 chinbarg 3 kg per hectare planted Prometrin drug. Table beet field until the plant sprouts planted 9-12 kg Atsetlur, 1-2 chinbarg Bentanol 6-7 kg during the broadcast. Herbicides used in the fields to harvest after 4 months of consumption.

**Preparing the land for planting** . The soil is plowed to a depth of 22-25 cm with grain-free soil plows. The soil is plowed and mulched so that it is flat, soft and fine-grained.

**As a secondary crop** in Uzbekistan, root vegetables are grown in summer from June 15 to July 15 (carrots, turnips, radishes and beets). Root crops are planted in rows 60 cm apart or in double rows 20-30 cm apart and 40-80 cm apart.

The sowing rate is 60-80 grams of seed carrots, 160-180 g of beets, 50-60 g of radishes and 20-30 g of turnips. Planting depth varies from 1–2 cm to 3–4 cm, depending on the type of crop and the mechanical composition of the soil is heavy - light.

**Care.** Weed control in the care of root crops is extremely complex and laborious work. Once the weeds have sprouted between the rows, they are lost by cultivating and weeding between the rows. Firing is carried out in conjunction with unification. When the plants have 1–2 leaves, the first weeding and weeding, and two weeks later, the second weeding and weeding. In the first unification, the distance between plants is 2-3 cm in carrots, 5-7 cm in the second, 10-12 cm in beets and turnips, 10-15 cm in radishes. The lawn is watered frequently every 3-4 days until the buds sprout. After they sprout evenly, the interval between waterings is 8–10 days, and the period of formation is 12–15 days. This requires a constant supply of moisture in the soil. Irrigation is stopped 2–3 weeks before the harvest of evening root crops. During the growing season watered a total of 5–11 times.

**Carrot pests.** 1. Detsis 2.5% em.k. During the growing season of the plant against carrot flies and sap, carrot leaves are sprayed 1 time when 10–12 cm. Deltarin-2.5% Em.k. Add 5-6 milliliters to 10 liters of water.

**Sugar beet pests.** Qandalalar mosquitos, fleas, porosity, pore moth, leaf juice, cancer, Canada, o'laksaxo'rlarga can use any of the following drugs: Decianus 2.5% em.k. 2 times every 15 days, sprinkling; BI-58 (new) 40% em.k. Spending limits - 0,5-6 / l to 1.0. During the growth of plants every 15 days, 2 times sprinkling; Konfidor 200 g / l s.e.k. Beet uzunburuniga, beet leaves 10-15 cm, 1 sprinkling; Koginor 20% em.k. Spending limits - 0,15- 0,25 / l. Beet uzunburuniga, beet leaves 10-15 cm, 1 sprinkling.

Treatment is stopped **20 days before** harvest .

**2. In the** fight **against diseases of sugar beet (flour dew, phomosis, cercosporosis) spray** 60 grams of sulfur powder 2 times every 15 days after the leaf is fully formed on one hectare **.** Instead Impuls-25%, 5-10 ml of the drug is added to 10 liters of water; or Conazole. 20 ml of water can be sprayed by adding 10 ml of the drug.

**Collection.** Some of the root crops are first sorted by hand and sold in bulk. The crop is harvested, dried, sorted and sent for storage or sale in October-November until severe frosts begin.

## VEGETABLE VEGETABLE CROPS

We believe that green leafy vegetables (shivit, lettuce, kashnich, cress, lettuce, radish, parsley, celery, lettuce, onion, garlic) should be grown in the yard of every household. Proper nutrition is the first step to deciding on a healthy lifestyle. Greens rich in vitamins and micronutrients should definitely be on the table for lunch and dinner at home. In the open field can be sown from early March. They are harvested at a rate of 30 - 40 days after planting. This allows them to be planted in the open field and harvested 3-4 times from early spring to autumn. In the field, greens are planted by hand in bulk (on the floor), in rows 2 and 3, and in rows by hand. The distance between the ribbons is 70 cm, the distance between the rows of tape is 10-15 cm, the planting depth is 1.5-2.0 cm.

Well, humus fertile, cool Serna cultivated lands. Before the seeds ekisholdi ivitilib, then planted a light-ventilated. Depending on the extent of the planting, crop variety. For example, 1 hectare of dill leaves the field to use for the 200-250 g salts grows tall, 100-120 g, 100 g of 40-50 g parsley salad, salad Cross-70-80 g, 150-200 g of spinach, radishes 140-180 g, 30-40 g parsley, celery planted a score of 15-20 g of oxalic 30 g. Care to irrigate crops, vegetables, greens (always wet), the number of sows must be between the lines of mitigation and weeds, March 2-3, with a score of 750-850 g of nitrogen fertilizer light feedings. With the leaves of herbs and vegetables are often cut off from the production of pirate wealth, consumption is required. Herbs, vegetables are perishable products. Therefore, daily consumption and for the market to prepare for the day. Shivitning Uzbeks in Uzbekistan - 243, Anet, Xarkovskaya - 85, to rest; Krupnokochannyy salads, Koch-horn, Fiorett Sault G'1 hybrid varieties; kashnichning Yantar, Dream; Cross-salad Uzkolistnyy-3; ismaloqning Rostov, Nafis, The Netherlands; rediskaning Saxon, early maturing, round Krasnye s linen konchikom, Krasnyy of Lent, Mayskiy Liaw, Lola; petrushkaning lily, Saxarnaya, Novas, a giant De Italy; seldereyning acacia, Bodrost, Samurai, Nejnyy; roared Shirokolistnyy, Belvilskiy, Maykopskiy; fresh onions Karatalskiy, Zafar, Sumbula, white pearl, Istiqbol; Mayskiy garlic VIR, the purpose of planting resistant varieties, Yuzhno - fioletovyy.

## GRAIN CROPS

## MOSH GROWTH

Moss, beans and soybeans play an important role in meeting human protein needs. That is why it is important to grow these crops in every garden and consume them throughout the year. Fully mosh seeds contain twice as much calcium and phosphorus salts as meat and bread. In medicine it is used to calm the nerves, stop diarrhea, improve liver and kidney function, treat eye diseases. Mosh is rich in protein, due to its nutritional value it is 1.6-2.0 times higher than rye, wheat grains, 3.5 times higher than potatoes and 5 times higher than cabbage. Mosh accumulates up to 30-40 kg of pure nitrogen per hectare due to root buds, such as soybeans, and increases soil fertility.

**Varieties.** When sowing wheat or potatoes, cabbage as a secondary crop, early-maturing varieties with a growth period of 90-100 days are selected. Varieties such as Navruz, Kahrabo, Radost, Durdona can be planted.

**Soil cultivation.** When moss is planted in the ditch, the first crop is quickly harvested, the field is irrigated, plowed to a depth of 20-22 cm with maturity, plowed, and then the mulch is suppressed. If large lumps are formed on the ground, it is treated with heavy storms or ring rollers. After row crops, if the field is clean of weeds, well-

cultivated, the soil is cultivated and loosened to a depth of 10-12 cm without plowing, then the land is prepared for sowing by storm.

**Fertilization.** Mosh requires 30-40 kg of nitrogen, 40-60 kg of phosphorus and 30-50 kg of potassium per hectare when planted as a secondary crop, demanding phosphorus and potassium fertilizers. Phosphorus, potassium fertilizers are applied before plowing the soil. Nitrogen is added by cultivation before planting.

Lentils most optimal time for planting in the spring in the first ten days of April. Mulching - the planting of summer. Moshe as a secondary crop is one of the best sowing period is from June 1 to July 15 period. Lesions were introduced too late in the cold, or the rock remain unresolved. Seeds of lentils and a range of between 45-50 cm, 60 cm or 60 cm strip between the belts as well as add to be planted. The comment will be 13-15 cm between rows. Lentils Serna 3-4 cm of soil is dry to a depth of 5-6 cm sown. As well as the sowing of seeds sown for grain planting extent of land planted 150-160 grams.

**Care.** The care of replanted moss consists of cultivating between rows, watering during the transition and growth period. Mosh is watered 1–2 times during the growing season, during the period of flowering and legume formation.

**Fighting diseases.** Sowing of mosh seeds with Vitavaks 200 FF 34% at a rate of 2.5 l / t gives good results against the disease.

## GROWING BEANS

Mainly its seeds, green legumes, canned legumes are used. The seeds taste good, ripen quickly and are digested. 28-30% of protein is stored in seeds and 18% in green beans. It is advisable to plant Ravot and Mahsuldor varieties as a repeat crop of beans.

**The role of crop rotation.** As a repeat crop on irrigated lands, it is recommended to sow autumn cereals after barley and wheat, tomorrow after potatoes and vegetables.

**Soil cultivation.** For replanting beans, the field freed from cereal crops is irrigated and plowed to a depth of 22-25 cm with the maturation of the soil, chiseled, plowed, plowed and prepared for planting.

**Fertilization.** Phosphorus, potassium fertilizers are applied to the field where the beans are planted before plowing. Each hectare of land is filled with 60-80 and 40-60 kg of phosphorus and potassium fertilizers, respectively. 60 kg of nitrogen per hectare is given as feed with the first cultivation and another 60 kg as feed with the second cultivation. Feeds can also be given when getting furrows for irrigation. Ashes before planting will not only increase productivity, but also accelerate the ripening of the

crop. Spreading and drying the seeds in the sun before sowing improves seed germination.

**Sowing time.** Bean crops planted in the second ten days of April. Mulching is recommended for planting bean seeds from June 15 to July 15. Methods and norms of sowing seeds, depth. Beans are a widely grown crop. Return beans planted in a range of between 60 or 70 cm punktirlab planted. As well as double row sowing of 20-30 cm, pink in 60 or 70 cm between planting. Yield decreases when planted in bulk. 800 grams of seeds are used for 1 sale.

**Planting.** The farm uses a SST-12A seeder that sows beet seeds over a large area by hand, or a STVX-4 or SON-2.8 vegetable seeder can also be used.

**Crop care.** The beans planted in the pit are finely chopped after germination. This eliminates weeds and improves soil aeration. Plants are fed, watered, and disease and pest control is carried out. The work between the rows begins when the grass sprouts and the rows are formed. Row spacing is 6-8 cm in the first cultivation and 10-14 cm in the second cultivation. Subsequent cultivation is carried out depending on the contamination of the crop with weeds, the compaction of the soil, the maturation of the soil after irrigation. Row spacing is usually carried out every 10-15 days, the number of which is determined by the condition of the crop.

**Irrigation.** When planting in the summer, it is recommended to irrigate 3-4 times in the gray soils with deep groundwater. Groundwater is irrigated 2-3 times in the surface areas. After each watering, cultivation is carried out with the maturation of the soil.

**Harvesting.** If sown in the field, it is harvested by hand, crushed and the grain is sorted. If planted by a farmer on a large area, this work is carried out on machines VS-2, sorting «Zmeyka», as well as OVP-20, OS-4.5, ZAV-20, «Petkus-giant», «Super-Pektus». The moisture content of the seeds is maintained at no more than 14%.

## SHADOW GROWTH

Shade is a young and new plant in Uzbekistan. It is possible to cook from beans in the same way as from beans. But it is also twice as useful for them. Its grain contains 30-52% protein, 18-25% fat, 20% carbohydrates. Dietary foods for diabetics are prepared from soybeans. Recommended varieties for repeated planting can be planted Uzbekskaya, Golden Crown, Sochilmas varieties.

**Sowing time.** In the spring it is recommended to sow in the second decade of April. Shadow of the second temperature high enough to be planted in wet conditions on a flat grass, the soil is flooded for a short period. As a repeat crop, it is planted from June 15 to July 1 in areas cleared of weeds or early vegetables.

**Methods of sowing seeds** . As a secondary crop, shade is planted in wide rows. When sowing fast-growing varieties, the sowing rate is 1 kg per hectare.

**Planting depth.** 3-4 cm when there is enough moisture in the soil, 5-6 cm when the surface of the soil is dry.

**Crop care.** In irrigated agriculture, shade row cultivation is carried out, plants are fed, weeded and irrigated, and disease and pest control is carried out. The work between the rows begins when the grass sprouts and the rows are formed. Initially, a small incision is made. Cultivation is carried out depending on the contamination of the crop with weeds, the density of the soil, the maturity of the soil after irrigation. Row spacing is usually carried out every 10-15 days, the number of which is determined by the condition of the crop. The first cultivation is carried out at a depth of 6-8 cm, the next at a depth of 10-15 cm. Fuzilad super 2-4 kg / ha against weeds is applied before germination. During the growing season, when the shade forms 2-4 leaves or germinates after planting, the herbicide Pivot is sprayed on the soil in the amount of 0.8-1.0 kg / ha. Spraying Treflan at 4 kg / ha 10-15 days before sowing is also effective. Shade plant can be infested by lice, locusts, spiders, thrips, mosquitoes. Against pests Summi alpha is applied 0.25-0.30 kg / ha, Karate 0.15-0.25 kg / ha. Insecticides are used when the insects are present in quantities that damage the soybean crop. Diseases such as anthracnose, leaf mosaic, phytophthora, root rot are common in agriculture. In addition to agro-technical measures against them, measures such as pre-sowing treatment, cleaning, drying, disinfection of warehouses are applied.

**Irrigation.** Irrigation of re-planted shade is watered moderately, moistening 2–3 times. It is recommended to irrigate 4-5 times in gray soils with deep groundwater.

Harvesting. It is harvested by hand in the garden. In large areas, when the soybean yield reaches 14-15% of moisture in the seeds, it is harvested with Keys, Class, Dominator, John Deere combines.

## GROWING OILY SUNFLOWERS

In areas that have been cleared of grain as a secondary crop, farmers can earn high incomes by planting large areas.

**Variety selection.** Seeds of oilseed sunflower varieties currently grown contain up to 55% fat. Yields of Dilbar, Jahongir varieties grown as a secondary crop of oilseed sunflower (growing period 80-90 days) are 20-25ts / ha. and Vladimir Dushku, shop, LG-5580 F1 F1 F1 F1 hybrids yield of 26-31 c / ha. is formed. With this in mind, it is advisable to plant early-maturing, disease-

resistant and pest-resistant varieties and hybrids of sunflower with a yield of not less than 30 quintals per hectare (absolute dry seeds contain more than 50% oil).

In Samarkand region, seeds should be sown no later than June 30.

**The method and extent of the planting.** Oil sunflower planted a number of breaks of 60, 70, 90 sm.kenglikda. Planting supine-8, SKPI 12, SPCh6MF seeding is done. The thickness of the oil sunflower plants of 55-60 thousand / hectare in irrigated areas is considered to be optimal. Repeat cultivated as a crop oil sunflower planting rate of 7-8 kg per hectare, the planting depth of 6-7 cm. This oil kungaboqarnining with the help of the aggregate number of 60, 70 and 90 cm between planting changed the situation.

**One.** During the grass with a pair of leaves appears to be the only ones. Range: 60 cm to 90 cm, 70sm one of the account number of the planned number of plants of the field due to a big difference. If the range of between 70 cm and 25 cm between plants, a range of between 90 cm and 1 linear meter in a range of 18 to 20 cm seedlings are left uniqueness.

**Care.** If there are a lot of weeds, herbicides are also applied until the grass sprouts. When the plant forms 1-2 pairs of leaves, the row spacing is worked with cultivators KRN-4.2. The first cultivation is carried out at a depth of 6-8 cm, the second cultivation at a depth of 8-10 cm, the third at a depth of 10-12 cm. It should be noted that during the first cultivation, the first feeding with nitrogen fertilizer, the second feeding during the third cultivation. It is recommended to ensure that the soil moisture is 70-75% when working between rows. Row spacing is stopped when the plant reaches 60-70 cm in height. Inter-row tillage with soil maturation after irrigation gives good results.

**Irrigation.** Sunflower is a demanding crop. Yields increase by 20-25% on the basis of growing sunflowers in a high agro-fund and ensuring that the soil moisture is 70-80% of the field moisture capacity. The number of irrigations can vary from 3 to 5 times, depending on the depth of groundwater placement.

**Fighting diseases.** In order to prevent sunflower diseases, the seeds should be treated with one of the seed preparations, one week before planting. For example, Gumat dissolves 1.5 kg of sodium, copper sulfate 1.0 kg, Bronotak 6 kg, P-4, Protection and Vitaros 4 liters, Maxim 2 liters in 35 liters of water, mix well with 1 ton of seeds, aerate and then prepare for planting is placed. The use of these drugs in the specified amounts increases the germination of seeds in field conditions by 18-20%. Against insects and pests, spraying 50% Carbaphos 2 liters, 25% Cirax 0.3 liters, 55% Tsiperfos 1 liter, 25% Cypermethrin 0.3 liters per hectare during the growing season gives good results. Chemicals used. For the above diseases of oily sunflower is advisable to recommend chemicals - Opron, Vincit, Lavrel, Fundazol, Benmal and Sumpleks.

**Harvesting.** In the case of oily sunflower, the back of the baskets turns 90% yellow-brown, brown, and harvesting begins when the seed moisture reaches 12-14%.

**Harvesting is carried out on** SK-5 "Class Dominator" or "Keys" combines equipped with a special device PNP-1.5. The combine equipped with PSP-1.5 cuts the baskets, grinds, collects the seeds in the bunker, cuts the stems at a height of 10-12 cm, crushes 15 cm and throws them in the field. The crushed seeds are cleaned in OVP-20 machines and then passed through OS-4.5 A, ZAV-20, ZAV-40 or Petkus-Gigant grain

cleaning machines. The moisture content of stored seeds is stored at a thickness of 1 m, not exceeding 7%.

## MELON CROPS
## GROWING MELONS

**Varieties:** Rohat, Suyunchi – 2, Golden Valley, Lazzatli, Oltintepa, Kichkintoy, Obi novvot, Gurvak, Borikalla, Toyona, Gurlan, Amudarya, Gulobi Khorezmi, Zar gulobi, Sakhovat, Umrboqiy, Beshak.

**Seed selection.** Melon seeds sown ekisholdi macro- and micro-, growth stimulants - strings 0,02-0,05% solution for 10-12 hours, souring.

**Preparation of the earth.** Grain and early crop fields begins in the preparation of plant residues. KPS-5 for brand softener boronalarda, or small areas of the power plant is being irrigated fields to collect the remains of plowed. Mineral and organic fertilizer before plowing the land. Melon dinner time need to re-plowing the land, the soil, planted many good developments, as well as melons. The ag'darmasdan the soil to a depth of 22-25 cm draw softener, boron, molalanadi.

**Seed sowing period.** In the central regions of Uzbekistan, early varieties of melons, watermelons and squash until April 15, mid-April 20 to May 10, late May 15 to June 10; in the southern regions, early varieties are planted until April 10, mid-April 10-20, and evenings June 10-20. In the northern regions, the melon and watermelon should be planted by April 20, the middle by April 25 to May 10, and the evening by May 20-30. In Samarkand region, melons are planted on June 10-20 to grow as a secondary crop. A row spacing of 210–280 cm is obtained. Such ridges allow good spreading of melon crop stalks. Seeds are sown to a depth of 3–6 cm. For sowing small-seeded melons spend 3-4 kg per 1 hectare, for sowing large-seeded melons - 5-6 kg.

**Care.** Melon seeds were introduced into the soil moist until the sprouting of trees do not need watering. The main care activities of the melon include weeding the plants, loosening the soil, feeding the crop, mowing, watering, straightening the stalks, and fighting weeds and pests. Unification is carried out in two stages: the first when the plant produces leaves, the second during the first pruning. GDP trees sprouting crops with a number of accessories and defuse them. 20-25 days after germination, ie after two or three leaves appear, the crop is pruned for the first time, first fed and watered. The second

race is held 25-30 days after the first. During the growing season the row spacing is cut 4-5 times.

**Fertilizing.** Melons are grown in virgin soils report -100-150 kg of nitrogen per hectare of 100-150 kg of phosphorus, potassium - a score of 50-60 kg; and meadow-marsh soils 100-120 kg of nitrogen, phosphorus potassium - 100-120 kg, 50-60 kg of tax. Gray-brown soils apply 8-9 times a watering enough. Ground water, surface soils is less than the gray-brown soils are irrigated (4-5 times). During the growth of melons and water to provide a flat pledge to increase yields.

**Melon, watermelon, pumpkin (melon) pests and diseases.**

**1. Biological fight.** Three young melon lashes leaf was formed biolaboratoriyadan Lacewing eggs from the greenhouses and plots.

**2. Chemical struggle.** With the recommended drugs spray the drug with the appearance of harmful insects on the leaves of melons. Subsequent treatment should be treated a total of 3 times once every 20 days.

One of the following medications against spiders and thrips: Pilora 24% moisturizing powder. 5-10 ml of the drug is added to 20 liters of water; Tsichloros-55%. 35 ml of the drug is added to 10 liters of water.

**Control of the melon fly (melon worm)** - when the melon comes out of the flower and begins to bear fruit, small flies fly around the fruit and land on it 3 times, every 15-20 days. Sporagin s.e.k., Consumption rate - 2-3 l / ha or Atella 5% em.k. (2.0 l), Sumi-Alpha 5% em.k. (3.0 kg) of drugs used **fuzarioz disease** of the bladder , depending on the development of the disease - 2-3 times during the growth of the plant sprinkling. In this case, one of the fungicides: Topaz 10% (2.0–2.5 l), Kurzat R n.kuk. (2.0–2.5 kg), Foliar BT 22.5% (500 ml) is recommended to be mixed with 600–700 liters of water and sprayed on one hectare.

Treatment is stopped **30 days before** harvest .

## GROWING WATERMELON

**Varieties:** Hayit Kara, Koziboy Kara, Urinboy, Manzur, Chillaki F1, Krisby F1, Krimstar F1, Surkhan Tongi, Dilnoz, Sharq Nemati.

**Seed selection.** Planted watermelon seeds should be clean, highly germinating, disease-free, medium-sized, whole (unbroken). Seeds are dissolved in a solution of 0.02-0.05% of pre-sowing macro and micro fertilizers, growth stimulants for 10-12 hours.

**Land preparation.** In horticulture, the preparation of land for planting is an important factor that ensures that all subsequent technological measures will yield good results. Preparation of areas vacated by cereals and legumes begins with the removal of plant debris. To do this, KPS-5 brand softeners or harrows, and in small areas by hand, plant debris is removed, removed from the field, irrigated, and then plowed. Mineral and organic fertilizers are applied before plowing. When watermelon is planted in the evening, it is loosened to a depth of 22-25 cm without overturning the soil, chiseled and mulched.

**Sowing time and scheme.** In Samarkand region, melon and watermelon varieties are planted as a secondary crop on June 10-20. A wide ridge with a row spacing of 210–280 cm is obtained. Such ridges allow the stalks of melons to spread well. Seeds are sown to a depth of 3–6 cm. 4.5–5.0 kg of seeds per hectare are used for sowing small-seeded watermelons, and 5.5–6.0 kg for large-seeded watermelons.

**Care.** If the seeds are planted in moist soil, watering is not required until the seedlings germinate. Watermelon harvest of major maintenance work to mitigate the uniqueness of plants, soil, crops, tilling, watering, lashes correction, including the fight against weeds and pests. Unification is carried out in two stages: when the plant produces leaves, and at the time of the first pruning. With the mass germination of seedlings begins to soften the row spacing. The emergence of trees 20-25 days, which they held for the first time after the start of the two-three chinbarg crop weed, water, and nutrition. The second race is held 25-30 days after the first. During the growing season the row spacing is cut 4-5 times.

**Fertilization.** Watermelon is grown on gray soils at the rate of 100-150 kg of nitrogen fertilizers per hectare, phosphorus - 100-150 kg, potassium - 50-60 kg per hectare; In meadow and meadow-swamp soils nitrogen is added at the rate of 100–120 kg, phosphorus-100–120 kg, potassium - 50–60 kg. On gray soils, it is sufficient to irrigate the crop 8-9 times during the growing season. In shallow fields, groundwater is irrigated 4-5 times less than on gray soils.

## PUMPKIN GROWING

**Varieties:** Spanish – 73, Kashgarskaya – 1644, Pilaf pumpkin – 268. Seed selection. Planted pumpkin seeds should be clean, high-yielding, disease-free, medium-sized, whole. The seeds are cleaned from the seeds of other plants, then soaked in a solution of macro and micro fertilizers, growth stimulants 0.02-0.05% for 10-12 hours.

**Preparation of the earth.** All melons are prepared. The scheme of planting time. Pumpkin seeds germination depends on determining the right time for planting. Samarkand region as a secondary crop planted pumpkin July 1. Pumpkin planting a range of between 360 centimeters wide furrows. These furrows pumpkin lashes good in the air. The seeds sown to a depth of 3-6 cm and 1 hectares of land used for 5,0-6,0 kg seeds.

**Care** to mitigate the uniqueness of plants, soil, crops, tilling, watering, lashes correction, including the fight against weeds and pests. Unification is carried out in two stages - the first when the plant produces leaves, the second during the first pruning. GDP trees sprouting of a number of accessories and defuse them. 20-25 days after germination, after 2–3 leaves appear, the crop is pruned for the first time, first watered and fed. The second race is held 25-30 days after the first. During the growing season the row spacing is cut 4-5 times.

**Fertilizing.** Pumpkin grown in virgin soils affect the score forming nitrogen per hectare -80-100 -75-80 phosphorus, potassium tax -30-40 kg. Irrigation of soil moisture during the growing season of pumpkin gives 5–6 times the water, so that the soil is well moistened.

**Harvesting.** Pumpkin fruits are harvested once in late autumn.

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*FOR NOTES*

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