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MODERN AGROTECHNOLOGY OF TOMATO CULTIVATION IN SOIL AND CLIMATE CONDITIONS OF NAVOI REGION

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Annotatsiya

Ushbu maqolada Navoiy viloyatining qurg‘oqchil va sho‘rlanishga moyil tuproq-iqlim sharoitida pomidor yetishtirishning ilmiy asoslari, resurs tejovchi texnologiyalar, samarali agrotexnik tadbirlar va hosildorlikni oshirish yo‘llari tahlil qilinadi. Shuningdek, ekologik barqarorlik va iqtisodiy samaradorlik masalalari ham yoritilgan.

Kalit so‘zlar: pomidor, Navoiy viloyati, iqlim sharoiti, tuproq, hosildorlik, agrotexnika, volgograd 5/95, talalikhin, sibir ertasi.

Anotation. This article analyzes the scientific basis for growing tomatoes in the arid and saline soil and climate conditions of the Navoi region, resource-saving technologies, effective agricultural practices, and ways to create years. Issues of environmental stability and economic efficiency are also considered

Keywords: Tomato, Navoi region, climate conditions, soil, yield, agricultural technologies, volgograd 5/95, talalikhin, siberian tertas.

Login

Tomatoes are a widespread vegetable crop around the world and are important in ensuring food safety. Tomato cultivation in the desert and semi-desert regions of Uzbekistan, especially in the Navoi region, is associated with specific agro-ecological problems.

In area:

- water shortage
- soil salinity
- high temperature

factors such as require the use of innovative agrotechnologies in the cultivation of tomatoes.

Materials and Methods (Materials and Methods)

The research was conducted at the experimental field in Kyziltepa district of Navoi region. The following melon varieties were tested in the experiment: volgograd 5/95, talalikhin, Siberian tomorrow.

Soil type — gray soil (light mechanical composition, moderately saline). Key indicators in soil:

1. pH: 7-7.5
2. Humus content: 0.8–1.2%
3. Total nitrogen: 0.09%
4. Useful wet reserve: 10–12%

Experiment options are repeated 3 times, each option is placed on a 50 m² field. Irrigation — traditional every 10–12 days. Fertilizers were applied in the amount of N:150, P:90, K:50 kg/ha.

Research object and methods

Irrigated agricultural land of Navoi region was taken as the object of research. The following methods were used in the research process:

- agrochemical analysis
- field experiments
- comparative (competitive) method
- statistical evaluation

Soil fertility management

Soils of Navoi region mainly:

- sand
- shorkhok
- low humus

Soil improvement measures:

1. Introduction of organic substances
   - Manure (20–30 t/ha)
   - Compost
2. Green fertilization (sideration)
   - Planting legumes
3. Reclamation activities
   - Saline wash
   - Improve drainage systems

As a result of the soil:

- water retention ability
- aeration
- microbiological activity increases

Climate-friendly agrotechnologies

High temperatures cause tomato flowers to fall. Hence:

- optimization of planting periods
- selection of heat-resistant varieties
- agrotechnical shading (mulching)

it is important.

Mulching:

- lowers soil temperature
- retains moisture
- reduces weeds

Effective use of water resources

Water saving in Navoi conditions — is the main task.

Modern methods:

- drip irrigation
- irrigation based on humidity sensors
- use of fertility

Drip irrigation:

- reduces water consumption by 30–40%
- increases the efficiency of fertilizer use
- increases productivity by 20–30%

Scientific basis of fertilization

Balance is important in tomato nutrition:

- Nitrogen → vegetative growth
- Phosphorus → root development
- Potassium → fruit quality

Innovative approach:

- differential fertilization
- leaf feeding
- use of trace elements

Plant formation and management

Tomato yield largely depends on the correct formation of the plant.

Basic methods:

- pasynkovanie (removal of side branches)
- tie
- cutting off excess leaves

Consequence:

- light drop improves
- diseases decrease
- fruit quality increases

Disease and pest monitoring

Modern approach — integrated protection system (IPM)

Main directions:

- prevention
- biological means
- minimal chemical treatment

This approach:

- provides environmental safety
- increases product quality

Productivity and cost-effectiveness

When the correct agrotechnology is used:

- productivity: 50–80 t/ha
- the share of exportable products will increase
- the cost of production will decrease

Discussion

The efficiency of tomato cultivation in Navoi region depends on the following factors:

- water resources management
- increase soil fertility
- science-based agrotechnics

The transition from traditional methods to modern technologies will dramatically increase productivity.

Conclusion

The following priorities are important in growing tomatoes in Navoi region:

- introduction of resource-saving technologies

- reduce salinity
- science-based fertilization
- integrated protection system

Through these measures, it is possible to obtain a stable and high yield in the region.