The distribution and harmfulness of brown rot in intensive apple gardens

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Abstract: The infection of Golden apple variety in leaves, shoots and fruits of ranges from 44.0% to 60.1%, and the development of the disease from 19.6% to 28.4%.

Legolas cultivars grown in the intensive gardens in the Shakhrisabz district of the Kashkadarya region are infected in markedly smaller numbers. Leaves, shoots and fruits are infected from 18.2% to 22.5%, and the development of the disease, respectively, from 7.6% to 9.1%.

Keywords: brown rot, leaves, shoot, fruits, gardening, varieties.

1. INTRODUCTION:

In the world demand for food products in annual calculation resulted in a further expansion agricultural production, as well as high quality foods. The total area harvested in the world for apples was 4.9 million hectares and total production 83.1 million tonnes in 2017.

China, USA, Turkey, Poland, Iran, Chile, France, Russia, Brazil and Argentina achieve high results in global distribution and export. In these countries, much attention is paid to research in priority areas, such as apple growing, increasing yields, improving the quality of fruits, recognizing pests, species composition, bioecological features and modern resource-saving methods [5].

Scab, powdery mildew, brown rot (Monilinia) and other diseases are distributed in the gardens of the republic, causing great harm to the fetus. The main reason for the growth of these diseases in orchards is a change in weather conditions, the lack of reconstruction of old gardens, modern use of agrotechnical and chemical control measures.

When you need to expand the range of apples grown on the basis of intensive technologies and increasing their productivity, should pay special attention to diseases that they are experiencing. One of the urgent tasks of today is to determine the structure of organisms that cause pathogenic actions in apple gardens, to study the development, harm and bioecological features of diseases with using a scientifically based control system.

According to the literature, brown rot disease is widespread in intensive orchards, mostly in the Far East, Europe and Central Asia and in particular, in all regions of Uzbekistan. This disease brings great financial harm to many farms and turns several thousand tons of crops into an unfit condition [1].

Brown rot infected leaves, flowers, young shoots and fruits of apple. In leaves, first are formed small reddish speck in the form of point. They, developing, turn into spots of yellowish or dark brown, almost black color, the leaf becomes brown. When infected with flowers, the ovaries of the fruit and the leaves around it undergo complete decay, become brown, are in a hanging position on the trees, as if they were burned. On the surface of young shoots appear brown spots and small wounds. The upper part of the trees acquire a frozen or burnt appearance.

Based on the above data, study of distribution and harmfulness of brown rot diseases in intensive gardens has important meaning.

2. MATERIALS AND METHODS:

In order to study the spread and harmfulness of one of the main diseases of intensive gardens – brown rot disease in 2015-2017 scientific research was carried out in intensive gardens of Tashkent and Kashkadarya regions. The experiments were conducted on the basis of phytopathological and mycological methods [2, 3, 4].

3. RESULTS AND DISCUSSIONS:

In the Akhangaran district of Tashkent region leaves, shoots and fruits of Apple varieties Aydo red infected between 20.0% to 25.3%, and the progression of the disease is from 9.8% to 12.1%. The Galla apple variety is unstable to brown rot and infection proceeds much more intensively than other varieties. Infection of leaves, shoots and fruits is from 51.4% to 57.6%, and the development of the disease is from 23.7% to 26.5% (Table).
## Distribution and harmfulness of brown rot disease in the gardens during 2015-2017*

<table>
<thead>
<tr>
<th>Place where the research was conducted</th>
<th>Area, hectares</th>
<th>Variety</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akhangaran district of Tashkent region</td>
<td>36,0</td>
<td>Aydored</td>
<td>20,0</td>
<td>9,8</td>
<td>22,4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gala</td>
<td>56,0</td>
<td>25,1</td>
<td>51,4</td>
</tr>
<tr>
<td>Yangiyul district of Tashkent region</td>
<td>5,0</td>
<td>Golden</td>
<td>60,1</td>
<td>28,4</td>
<td>44,0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>40,0</td>
<td>19,6</td>
<td>59,2</td>
</tr>
<tr>
<td>Kitab district of Kashkadarya region</td>
<td>2,0</td>
<td>Aydored</td>
<td>22,1</td>
<td>9,5</td>
<td>19,2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gala</td>
<td>50,9</td>
<td>22,2</td>
<td>47,1</td>
</tr>
<tr>
<td>Shahrisabz district of Kashkadarya region</td>
<td>14,0</td>
<td>Legol</td>
<td>22,5</td>
<td>9,1</td>
<td>18,2</td>
</tr>
</tbody>
</table>

* Parts of the plant: leaf, shoot, fruit.

The Golden apple variety in Yangiyul district of Tashkent region was unstable to brown rot and infection occurs relatively high than other varieties of apple. Infection in leaves, shoots and fruits ranges from 44,0% to 60,1%, and the development of the disease from 19,6% to 28,4%.

It is revealed that the leaves, shoots and fruit of Aydored variety in intensive orchards in Kitab district of Kashkadarya region are infected with brown rot from 19,2% to 22,1%, and the progression of the disease is from 8,7% to 9,5%. The Gala apple variety was unstable, which indicates infection of leaves, shoots and fruits from 46,0% to 50,9%, and the development of the disease from 19,7% to 22,2%.

## 4. CONCLUSION:

Observations showed that the Legol apple variety grown in Shahrparshabz district of Kashkadarya region are infected in notably smaller amount. Leaves, shoots fruit infected from 18,2% to 22,5%, and the development of the disease, respectively, from 7,6% to 9,1%

## REFERENCES:

1. Ablakhatova, A. A. The main diseases of fruit and berry crops in the Primorsky Territory and measures to combat them. Vladivostok, 1956, pp. 20-47.


