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agronomia

Implementation of Phytosanitary Monitoring of Pest Diseases Spread on Laurel Leaves in Imereti Region

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The article presents the study of pest-borne diseases in Imereti municipalities: Terjola, Vani, Samtredia and Tskaltubo. It has been observed that brown spots on the leaves that cause dark, sunken lesions on leaves, so called Anthracnose Colletotrichum lauri, Macrosporiosis (Macrosporium nobile Vize), Capnodium (Capnodiales Sooty Molds) are ubiquitous and the Japanese wax scale - Ceroplastes japonicus Green as well as bay sucker Trioza alacris Flor turned out to be predominant pests.

Keywords: *Plant, Anthracnose, Macrosporiosis, Capnodium, Psila, Japanese wax scale.*

Laurel Laurus is a genus of evergreen species of shrubs or small trees. There are two species of laurel known in the world flora- Laurus nobilis and Laurus canariensis. Georgia is famous for the variety of species of Laurus nobilis only.

It is noteworthy that at present neither in Georgia nor in the entire world there is scarcely any variety of laurel breeds, so on an industrial scale and in the form of plantations (in **homestead plots**), **breeding populations** of the **species** differ distinctly.

The leaf of the plant is simple, 10 to 20 cm in size. The color, size and shape of the leaf vary greatly due to the environmental factors and conditions of care.

According to leaf size, narrow, medium and broad leaflets are categorized. According to the forms, the essential oil content ranges from 1.48 to 4.62%. Although broad-leafed shrubs yield 2-3 times more than narrow-leafed ones, the latter tend to contain much more essential oils.

It has umbrella-like greenish-yellow flowers, the plant blossoms abundantly. The flower is fragrant and honeyed. Thus, in early spring its pollination is carried out by honey-loving insects. The male flowers are larger than the female flowers and are deployed on the endings of the stems whereas female flowers can be seen in leaf hives.

The bay leaf can be dioecious as well as monoecious, but in most cases we come across hermaphroditic species. It can be black-colored, egg-shaped, oval, round or oblong-shaped with one-seeded bluish-black fruit. Fruits sometimes grow apart or close together in the tree. There is

only one seed inside the fruit with thin brown shell around it. It has a tap root system. The laurel tree lives for 300-400 years.

Laurels are used in the confectionery and canning industry and in the culinary industry. Its fruit oil is curative. The timber is durable and elastic (they make precious furniture, various small things). The laurel is decorative, used for live fences and kerbs and it is adaptable for trimming.

This best culture is marred by diseases and pests that cause quantitative and qualitative reductions in production, sometimes even dormancy that leads to its death. Our goal was to study the pests of laurel culture in the Imereti region and route examinations were conducted in Imereti region - Samtredia, Tskaltubo, Vani and Terjola districts.

The results of the research are shown below in the table №1:

Place of sampling	Disease	The spread of the disease %	Intensity development of disease %	Pest	The spread of the pest %	The density of settlement pest %
Terjola the village is Eceri	*Macrosporium nobile Vize*	10,0	8,5	Ceroplastes japonicus Green.	15,0	9,0
	Colletotrichum lauri	15,0	8,0	–	–	–
	Capnodiales Sooty Molds	10,0	6,0	–	–	–
Samtredia (in the small town of Kula)	*Macrosporium nobile Vize*	20,0	8,5	Ceroplastes japonicus Green.	20,0	10,5
	Colletotrichum lauri	20,0	10,5	–	–	–
	Capnodiales Sooty Molds	10,0	6,0	–	–	–
Tskaltubo the village Patriceti	*Macrosporium nobile Vize*	12,0	6,0	Ceroplastes japonicus Green.	25,0	9,5
	Capnodiales Sooty Molds	10,0	7,5	Trioza alacris Flor	8	3
Vani the village Bzvani	*Macrosporium nobile Vize*	20,0	8,0	Ceroplastes japonicus Green.	20,0	10,5
	Colletotrichum lauri	15,0	7,0	Trioza alacris Flor	9,0	5,0
	Capnodiales Sooty Molds	15,0	6,5	–	–	–
	Lichenes)	8	1.6	–	–	

During the route surveys we determined the percentage of pests that are prevalent on the bay culture, developmental intensity, and settlement density.

It has turned out, that the following diseases were spread from the diseases common in **the village of Etseri in Terjola region:**

1. Macrosporium nobile Vize It was spread by 10% with the disease development intensity of 8.5%.
2. Brownish spots on leaves, so called Anthracnose Colletotrichum lauri
3. Capnodiales Sooty Molds with a small prevalence of 10% and the intensity of disease development -6.0%.

Our routing studies have examined the percentage of pest spread and the degree of damage to plants. According to the prevalence rate, Japanese wax (Ceroplastes japonicus Green) was domineering, with a prevalence of 15% and a population density of 9.0%.

Samtredia (Daba Kulashi)- from the diseases: brown spots on leaves- called Anthracnose Colletotrichum lauri, Macrosporium nobile Vize, Capnodiales Sooty Molds.

1. Anthracnose Colletotrichum lauri, spreading percentage -20 %, development intensity - 10.5%.
2. Macrosporium nobile Vize, **disease development** and **disease intensity** 8.5% .
3. Capnodiales Sooty Molds in small quantities it was spread by 10% with the intensity of disease development by 6.0%.

In this region, the pests of *Ceroplastes japonicus Green and* Trioza alacris Flor turned out to be the most common diseases spread on laurel trees.

1. Ceroplastes japonicus Green was spread by 20 % whereas the pest settlement density was 10.5%.

Village Patriketi, Tskaltubo Region- Studying samples proved the existence of the following diseases: Macrosporium nobile Vize, which was spread by 30 % with damage intensity of 5.0%.

1. Capnodiales Sooty Molds – It was spread by 10% and development intensity was 7.5%.
2. Among pests: the Japanese wax scale - Ceroplastes japonicus Green was spread by 25%, whereas the pest settlement density was 9,5%. No detectable **damage was observed** at the example of Trioza alacris Flor.

Village Bzvani, Vani district– as in all municipalities, the same pests have been reported here, lichens have been found on additional leaves.

1. Brownish spots on the leaves- sunken lesions on leaves, so called Anthracnose Colletotrichum lauri spread by 15 %, development intensity was 7.0%. *Macrosporium nobile Vize*, – spread by 20%, with the development intensity of 8.0%.

2. Capnodiales Sooty Molds was spread by 15 % with the development intensity of 6.5%

3. Lichenes-The damage was found in relatively small quantities approximately 8%, development intensity 1.6%.

From the pests, the Japanese wax scale - Ceroplastes japonicus Green was spread by 20 % pest settlement density was determined by 10.5 %.

Our survey in the Imereti region was conducted in 4 municipalities: Samtredia, Tskaltubo, Vani and Terjola.

As a result of routining research: we can draw the following conclusions on the basis of the species of pests found in Samtredia, Tskaltubo, Vani and Terjola districts:

1. The most ubiquitous pests spread on the laurel leaves are the Japanese wax scale - Ceroplastes japonicus Green and bay sucker Trioza alacris Flor. In addition, Anthracnose Colletotrichum lauri and Macrosporium nobile Vize were most common fungal diseases. However, already mentioned pests and diseases don't pose the risk of further spreading an outbreak and the hearths can be controlled in compliance with the appropriate integrated measures approved by agricultural guidance.

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