

Cauliflower diseases.

Shomurodov Shohzod Zokirovich

shahzodshomurodov240@gmail.com

Parmonov Sodiq Xolboyevich

sodiqbekparmonov@gmail.com

Mahmudov Yahyo Baxtiyorovich

yahyomaxmudov329@gmail.com

Termiz Institute of Agrotechnologies and Innovative Development

Annotation : In this article, we have provided information about the diseases of the cauliflower plant and their types. The following diseases cause severe damage to the cauliflower plant, which is an agricultural crop.

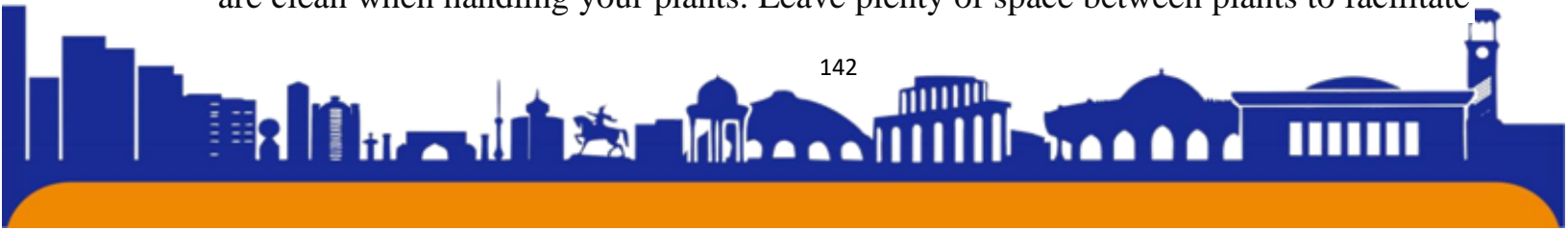
Keywords: Broccoli, Brussels sprouts, Cabbage, Cabbage, Kohlrabi, Turnip, Radish and Rutaba, Bacterial soft rot, Black leg (*Gangraena emphysematosa*) and Black rot (*Xanthomonas campestris*), Nitrogen (N), Phosphorus (P) and potassium (K). Nitrogen

Аннотация: В данной статье мы предоставили информацию о болезнях растения цветной капусты и их видах. Следующие болезни наносят серьезный ущерб растению цветной капусты, которая является сельскохозяйственной культурой.

Ключевые слова: брокколи, брюссельская капуста, капуста, капуста, кольраби, репа, редька и брюква, бактериальная мягкая гниль, черная ножка (*Gangraena emphysematosa*) и черная гниль (*Xanthomonas campestris*), азот (N), фосфор (P) и калий (K).). Азот

Cauliflower Disease

Cauliflower is a cool-season vegetable that produces a central head of tightly coiled flower buds similar to broccoli. Plants are sometimes a bit more difficult to grow due to their environmental needs and susceptibility to several common pest and disease problems. In this article, discover practical ways to treat and prevent cauliflower diseases and pest attacks. Taking a few preventive measures against the spread of plant diseases in your garden will go a long way toward success in growing cauliflower. always sterilize between uses and make sure your hands, gloves and shoes are clean when handling your plants. Leave plenty of space between plants to facilitate



air circulation. Many bacterial and fungal pathogens thrive in warm, moist conditions. It is helpful to keep the leaves dry using a watering can or drip irrigation. Read on to learn more simple ways to keep cauliflower problems to a minimum this growing season.

Solutions for common cauliflower problems

Cauliflower, or *Brassica oleracea* var *botrytis* by botanical name, belongs to the Brassicaceae or cabbage family of plants. It is closely related to broccoli, Brussels sprouts, cabbage, kohlrabi, turnip, radish and rutabaga. Healthy plants are more resistant to insect damage and bacterial or fungal infections. In addition, it is better to save fresh cauliflower that has no evidence of pests or diseases. The most effective protection against the attacks of cauliflower insects and diseases is to provide them with the appropriate amount of light, nutrients and water. It requires cool temperatures. Heat stress usually causes budding, where the plant develops small button-sized heads instead of single flowers. Most growers plant cauliflower in the spring and fall so they can go through the proper stages of growing cauliflower when the weather isn't too hot. Water is another important factor in growing cauliflower. Plants drain well when grown in nutrient-rich soil, but are also consistently moist. Give them two inches or more of water per week during hot or dry periods. Avoid overwatering or drying the plants out too much. Cauliflower plants require regular feeding with an organic fertilizer during the growing season for satisfactory yields. Use a balanced, all-purpose fertilizer every four to six weeks. Enriching the soil with organic compost or well-rotted manure is also beneficial.

Bacterial Cauliflower Disease

It can sometimes be difficult to determine which pathogen is causing the problem for your cauliflower plant because the symptoms are often similar in different conditions.

Bacterial soft rot, blackleg (*Gangraena emphysematosa*) and black rot (*Xanthomonas campestris*) are bacterial infections that occur regularly in wet weather.

Bacterial soft rot produces water-soaked lesions that are yellowish, white, or transparent and surrounded by a dark ring.

Black leg appears as blackened, slimy decay at the base of the stem. Plants affected by black rot develop blackened leaf veins along the midrib, followed by moist, pale patches.

Unfortunately, there are no effective remedies for these conditions. If possible, buy certified disease-free seeds and plants. Otherwise, pre-treat the seeds with hot water to kill bacteria before planting.

there is enough space between plants for adequate air circulation and that your garden soil is well drained. Practice crop rotation with blight-resistant crops such as beans, beets, or corn.

Be careful not to damage plants when performing tasks such as gardening and harvesting . Harmful bacteria often enter plant tissues through wounds on leaves or stems.

Common cauliflower pests.

The most common cauliflower insects include cauliflower and include broccoli aphids , flea beetles, cabbage loopers, cabbage worms, and thrips. These insects feed on the leaves and central head or curd of the plants and damage the crop.

Nutrient deficiency in cauliflower plants

Cauliflower plants are heavy feeders and benefit from regular applications of organic fertilizers during the growing season. Without sufficient nutrients, the plants will be stunted and will not produce satisfactory crops.

There are three main macronutrients in plant fertilizers: nitrogen (N), phosphorus (P) , and potassium (K). Nitrogen improves leaf growth, phosphorus promotes flowering and fruiting, and potassium promotes healthy root systems. develops.

another reason cauliflower plants button instead of forming a single central head . However, too much nitrogen leads to premature development of flower buds, resulting in a loose head with a granular structure.

Boron is an essential micronutrient that plays a key role in important plant processes such as cell wall formation, movement of sugars throughout the plant, pollination, and seed set. Boron deficiency results in hollow stems and a brown, bitter taste. leads to the head of cauliflower. Worm castings are an excellent source of boron as well as other micronutrients such as calcium, iron, sulfur and zinc.

1. Place of Alternaria Leaves

the genus *Alternaria* , with a total of about 50 species, several species, including *A. solani* and *A. brassicicola* , can cause leaf spot.

Also known as early leaf blight, this disease affects brassicas like cauliflower.



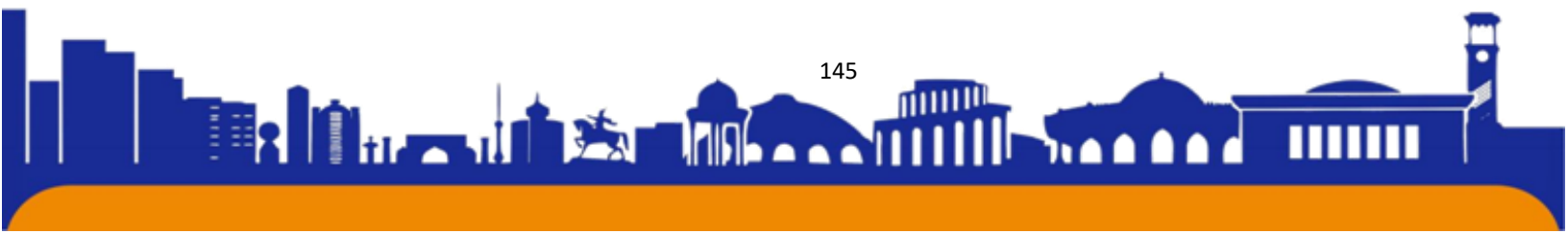
Spores require moisture to germinate. They are active in conditions between 60 and 78, when conditions are moist and carried by wind or splashing water.

Warning signs of Alternaria leaf spot

Telltale signs are brown to black spots with clear borders, like a target. They usually start as isolated spots on the leaves. When enough of them coalesce, they dry up and fall off the leaves, leaving large holes and large dead patches. Black spots may also appear on developing heads. Defoliation it can be limited to only a few leaves or it can be extensive, affecting the stems and causing the plants to weaken and die.

2. Bacterial Soft Rot

Bacterial soft rot is caused by several types of virulent bacteria, including *Pectobacterium carotovorum*.





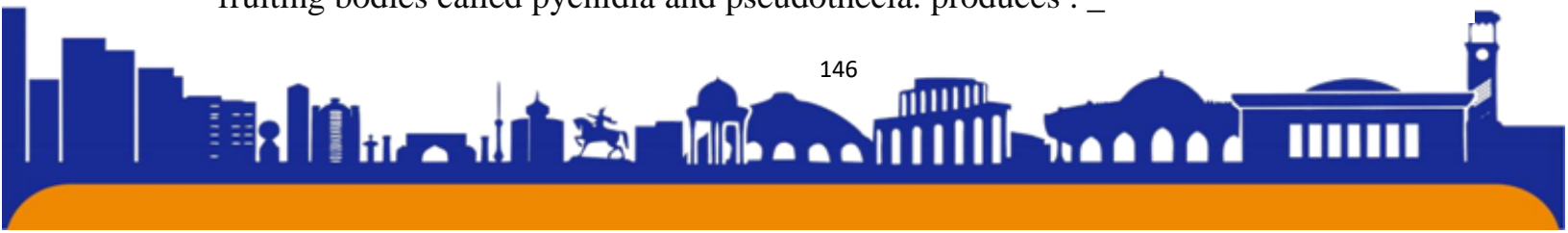
They are mechanic damage or insects activity as a result surface came open holes or cracks through to tissues _ entering and growing __ to the plants attack they do 7C _ from 8 C up to was __ temperature , especially plants __ calcium if not , an epidemic is convenient for

Bacterial soft rot warning signs

This from the situation affected __ plants __ in the leaves and / or developing in the heads soft wet __ spots __ appear they are __ __ it 's a plant tissues __ feeder bacteria by when broken down getting bigger goes _ Stem and roots too effect __ to do can _ The wilting and discoloration will continue until you're left with just a sippy, smelly mess. This disease can also affect harvested crops , so avoid temperature changes that can activate the bacteria every time. always refrigerate your choice immediately.

3. Blackleg

The black leg fungus , leptosphaeria maculans, aka Phoma lingam , produces fruiting bodies called pycnidia and pseudothecia. produces . _



They contain microscopic spores that are dispersed by wind when the temperature is between 6 C and 8 C.

The disease can also occur in seeds, especially in plants that develop cracks from cold weather, injury, or insect damage.

4. Black Roth

Black rot is caused by *Xanthomonas campestris*, the weather is wet and a bacterium that likes to feed on sensitive plants when the temperature is above 7 C.

Warning signs of black rot

The first signs of the problem are yellowing along the edges of the leaves.

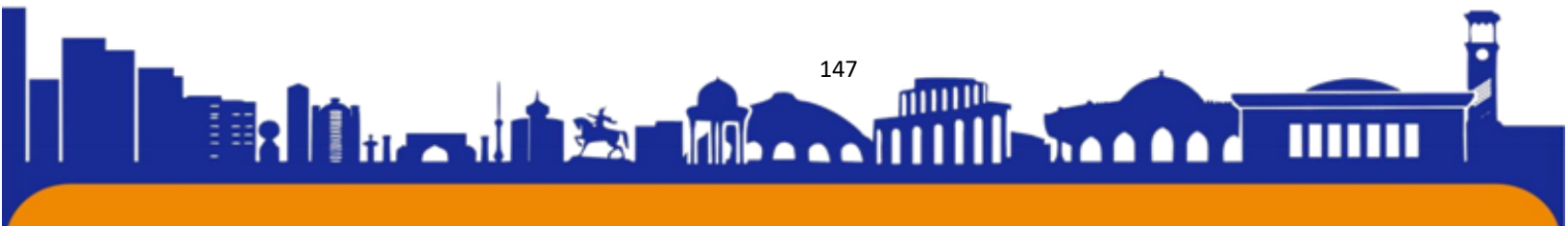


When the discoloration extends to the center of the leaves, the leaves may dry and turn brown. In severe cases, leaf veins darken and rot.

Bacteria enter plants through pores, or stomata, and damaged areas that leave plant tissue vulnerable.

5. Cauliflower Mosaic Virus

Cauliflower mosaic virus is an aphid-borne viral disease.



Plants can be affected when the temperature is between 6 °C and 8 °C, when the aphid is most active.

Photo via Alamy .

Leaf veins are the target. First, they turn yellow, then narrow cracks appear where the veins used to be - this is called 'scouring'." Green streaks on the veins, called banding, as well as dry spots of dead tissue on the leaves. possible

The last distinguishing feature is the light and dark green color of the leaves with a mosaic pattern.

To Prevent Cauliflower Mosaic Virus

Protect your garden from pests by planting with marigolds or introducing beneficial predatory insects such as ladybugs to control the population .

To Address Cauliflower Mosaic Virus

is danger wherever you see aphids . Direct the hose to the plants to wash them .

If a strong spray from a hose isn't enough, treat the plants with neem oil or insecticidal soap according to package directions.

6. Clubroot

Clubroot is caused by a fungus, *Plasmodiophora brassica* , which lives in the soil, supports a soil temperature of 7 °C to 9 °C, moist conditions and acidic soil to activate



7. Deletion

Dumping is caused by various species of Rhizoctonia fungi and the parasitic water mold Pythium , called an oomycete .

It is a soil- borne condition and prefers soil temperatures of 7 - 5 °C and above and moist conditions. Spores germinate when exposed to air and contact with moisture.

It causes their leaves, stems, and roots to rot, which is a disaster for otherwise healthy seedlings. Sometimes the attack occurs before they have a chance to break the ground, and there are no sprouts. Other times, the seedlings lose their leaves. begins to swell, suddenly they are covered with white thread-like webs, their stems become thin like wires and fall on the dead. When adult plants are affected, the rot starts from the roots and spreads to the stem. can pass.

8. Downy Mildew

Pink rot is caused by *Gialoperonospora parasitica* , an oomycete that can damage the leaves and heads of cauliflower. Its spores are carried by the wind and germinate in a moist environment with a temperature of 5 C to 7 C.

Warning signs of pink rot

Symptoms include yellow spots on leaf surfaces and furry gray mold underneath. Unchecked leaves and stems can become deformed and eventually die.

9. The dust rotted

Powdery mildew appears as a white, moldy coating on the top of the leaves.



It is caused by a fungus, *Erysiphe cruciferarum* , that produces airborne spores that germinate in temperatures ranging from 7 °C to 8 °C and dry conditions with low humidity.

Warning signs of powdery mildew

The first signs of the problem are white spots on the leaves. Both tops and bottoms can be affected.

The spots eventually spread to form a fuzzy layer of thread-like mycelia.

When the leaves are affected by the fungus, they turn yellow or brown, at which time other pathogens can enter the infected tissues, causing rotting and death.

10. Ring Place

Ring spot, also known as black blight, is caused by the ascomycete *Mycosphaerella brassicicola*, a type of fungus .



Spores multiply from sac-like structures to form minute "fruiting bodies" that require temperatures of 5 °C to 7 °C and moist conditions for germination .

Ring spot can appear on the seed itself or infect the plant through its stomata.

Warning signs of ringworm

If the leaves have brown lesions with yellow edges and bull's eyes appear, fungal colonization may continue. Unchecked, spots coalesce and darken leaves. Both leaves and stems may be affected.

Summary: Cauliflower, Brassica olerace is a plant. botrytis is a cruciferous vegetable that requires consistently cool temperatures, even moisture, good air flow between plants, and nutrient-rich soil to produce hard, compact heads.

Have you read our guide to growing cauliflower ?

In conclusion, when growing this crop, you should choose disease-resistant varieties to plant from the start and always use clean hands, gloves and you can get an edge by gardening with garden shoes .

References

1. Khaitovna PM, Faksriddinovich MS Technology of growing cauliflower // Texas Journal of Interdisciplinary Research. - 2022. - T. 6. - S. 8-10.
2. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=Buztwd0AAAAJ&authuser=1&citation_for_view=Buztwd0AAAAJ:u-x6o8ySG0sC
3. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=Buztwd0AAAAJ&authuser=1&citation_for_view=Buztwd0AAAAJ:2osOgNQ5qMEC
4. https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=Buztwd0AAAAJ&authuser=1&citation_for_view=Buztwd0AAAAJ:qjMakFHDy7sC
5. <https://doi.org/10.5281/zenodo.7115076>
6. <https://doi.org/10.5281/zenodo.7131539>
7. Xayitovna, P. M., & Faxriddinovich, M. S. (2022). Types of corn grown in Uzbekistan and their peculiarities. Texas Journal of Agriculture and Biological Sciences, 3, 59-63.
8. Xayitovna, P. M., & Faxriddinovich, M. S. (2022). Cauliflower Growing Technology. Texas Journal of Multidisciplinary Studies, 6, 8-10.
9. Abdullayev, M., & Mamarajabov, S. (2022). VARIETIES AND ACHIEVEMENTS OF WHEAT PLANT SELECTION IN UZBEKISTAN. Eurasian Journal of Academic Research, 2(11), 100-104.
10. Khayitovna, P. M., & Faxriddinovich, M. S. (2022). PECULIARITIES OF GROWING CAULIFLOWER. Science and innovation, 1(D3), 144-146. Константинович, А. В., & Маслов, В. А. (2012). Выращивайте рассаду цветной капусты правильно. Картофель и овощи, (2), 25-26

