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|  |  | septoria |
| SEPTORIA Septoria blotch is a common disease of wheat, often occurring alongside other foliar diseases. It is also known as Septoria leaf spot and is caused by Zymoseptoria Elliptical, tan-brown lesions that often have yellowish halos first appear on seedling leaves.  **CAUSES**  Septoria leaf spot is caused by the fungus Septoria lycopersic, which survives in plant debris or on infected plants. Septoria leaf spot symptoms typically begin as plant canopies start to close. Denser foliage leads to high humidity and longer periods of leaf wetness that favor the disease. |  | symptomesThe initial symptoms are yellowish or chlorotic flecks on leaves, especially those in contact with the soil.The chief symptom of a leaf spot disease is spots on foliage. The spots will vary in size and color depending on the plant affected, the specific organism involved, and the stage of development. Spots are most often brownish, but may be tan or black. Concentric rings or dark margins are often present.organic solution An organic fungicide which works against Septoria leaf spot is copper fungicide.   Removing infected leaves. Remove infected leaves immediately, and be sure to wash your hands and pruners thoroughly before working with uninfected plants.  Neem oil can also be used to manage some fungal disease issues, **such as Septoria** It works by preventing the germination and penetration of fungal spores into leaf tissue. Neem won't “cure” a plant that is already infected with a fungal disease, but it can help limit the spread of the disease to healthy tissue. inorganic solutionYou can try by spraying with a mild solution of bicarbonate of soda (baking soda), using ½ teaspoon per gallon (2.5 mL per 4 L.) Tri sodium polyphosphate, Potassium silicate, sodium silicate, Glutathione and chitosan were evaluated as foliar spray for suppressing Septoria leaf blotch (SLB). |

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|  |  | Strip RUST |
| split rust Wheat leaf rust (Puccinia triticina) is a fungal disease that affects wheat, barley, rye stems, leaves and grains. In temperate zones it is destructive on winter wheat because the pathogen overwinters. Infections can lead up to 20% yield loss, which is exacerbated by dying leaves, which fertilize the fungus.  **CAUSES** Leaf rust, also known as brown rust, is caused by the fungus Puccinia triticina. This rust disease occurs wherever wheat, barley and other cereal crops are grown. Leaf rust attacks foliage only. Identifying symptoms are dusty, reddish-orange to reddish-brown fruiting bodies that appear on the leaf surface. |  | symptomes  * Mainly occur on leaves than the leaf sheaths and stem. Bright yellow pustules (Uredia) appear on leaves at early stage of crop and pustules are arranged in linear rows as stripes. * The stripes are yellow to orange yellow. The teliospores are also arranged in long stripes and are dull black in colour.  organic solution remove volunteer wheat plants (the "green bridge") that will support stripe rust inoculum in the 6 weeks prior to sowing.  Use of resistant varieties is the best way to control wheat losses to stripe rust. Two types of genetic resistance to stripe rust are known: a) seedling resistance and b) adult plant resistance. Seedling resistance, which is controlled by a single gene, is highly effective and lasts throughout the wheat life cycle. inorganic solutionChemistries from two of the most commonly used classes of fungicides – triazoles and strobilurins – provide good to excellent activity against split rust leaf diseases Foliar fungicides can be applied to manage the disease, and these are best used in the early stages of the infection.   Galvanising is a method of rust prevention. The iron or steel object is coated in a thin layer of zinc. This stops oxygen and water reaching the metal underneath - but the zinc also acts as a sacrificial metal . |

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|  |  | loose smut |
| loose smut Loose smut has a wide distribution and can occur anywhere wheat is produced. It is caused by the fungus Ustilago tritici. Mild symptoms may be present prior to heading, including yellowish leaf streaks and stiff, dark green leaves.  **CAUSES**  Loose smut of barley is caused by Ustilago nuda. It is a disease that can destroy a large proportion of a barley crop. Loose smut replaces grain heads with smut, or masses of spores which infect the open flowers of healthy plants and grow into the seed, without showing any symptoms. |  | symptomes  * It is a seed borne disease; infection occurs during Loose Smut flowering through wind-borne spores. * The infection remains dormant inside the otherwise healthy looking seed but the plants grown from such seeds bear infected inflorescence.  organic solution The most common practices for managing loose smut are rouging and destroying infected plants and using disease resistant varieties and treated seed.  Early planting when soil temperatures are warm and unfavorable for infection can provide partial control of common bunt. inorganic solutionThe most effective management strategy for common bunt is to treat seed with fungicide before planting. This new compound, called **carboxin**, was found to control loose smut of wheat and barley as well as common bunt of wheat. The ability of carboxin to control loose smut was unique since the loose smut pathogen survives from one season to the next inside of the seed as hyphae in the embryo. |

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|  |  | crown and root rote |
| crown and root rote Root and crown rot of winter wheat is caused by the infection of roots and crowns by Bipolaris sorokiniana and several species of Fusarium.  Root/crown rot is a general term that describes any disease of woody ornamentals where the pathogen (causal organism) attacks and leads to the deterioration of a plant's root system and/or lower trunk or branches near the soil line.  **CAUSES**  Crown rot is a disease caused by the fungus Fusarium pseudograminearum. and can attack all winter cereals and many grassy weeds. The presence of the pathogen within the plant stem limits water movement, which can result in premature death of the tiller and the presence of white (dead) heads... |  | symptomes  * The disease mainly occurs in seedlings and roots and rootlets become brown in colour. * Seedlings become pale green and have stunted growth. * Fungus produces sporangia and zoospores and oospores.  organic solution Start to treat root rot by removing the plant from the soil and washing the roots under running water. Wash away as much soil and affected roots as possible while being gentle with the plant. Next use a sharp, clean pair of shears or scissors to trim away all of the remaining affected roots.   One should avoid overwatering, allow good drainage, replace the soil if needed, and select healthy plants. inorganic solutionThe active ingredient thiophanate-methyl (or others in the benzimidazole group – MOA 3) containing a benzimidazole have always provided the best control. Root rot is most commonly caused by poor soil aeration or over watering. Mix one part 3% percent hydrogen peroxide with two parts water and carefully pour it over the plant's root system with a watering can or spray bottle. This will kill off the bacteria which causes root rot. |