

What Could Come with Cool Wet Weather?

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We all know the old adage “April showers bring May flowers”, in the Big Horn Basin in particular these spring showers have also provided a flush of mustards. At this point, this year could potentially be setting up for a heavy pest pressure year for Wyoming’s crops. With this cool wet spring, make sure to spend time scouting fields for insect, disease and weed pressures that could be economically damaging to the crop yield. Currently the spring moisture has delayed field preparations, planting of fields and pesticide applications to keep these pest pressures in check. Various weeds, such as the mustards, are taking full advantage of this inability of control by growing thick, tall and flowering in attempts to produce seed. Generally speaking, the more mature and established a weed is, the more difficult it is to control.

As the vegetation grows (weeds and desired crops), the plant canopy can become very dense creating the perfect conditions for both disease and insect pressures. In particular, cool wet spring conditions provide the perfect environment for various kinds of foliar diseases, some damping off and root rot diseases. Typically, these types of diseases are not usually a large concern because Wyoming’s arid climate provides a dry crop canopy, but not this year.

Root rot is just like it sounds, it is a fungal disease that attacks and rots the roots of new and established plants. Whereas damping off disease is a fungal disease that attack the seedling plants rotting thru the stem at ground level. These diseases can infect various types of crops, such as barley, corn, dry beans, sugar beets, alfalfa and more. These fungal diseases are more of a problem when crops are planted and germinate under cool damp soil conditions. To combat this disease pressure, plant crops into soil temperatures appropriate for the crops germination and establishment. For example, sugar beets do well being planted in soil temperatures between 50 – 60 degrees Fahrenheit and dry beans should be planted in soil temperatures at a minimum of 60 degrees Fahrenheit. Fungicide seed treatments can provide some help in managing these diseases.

Unlike root rot and damping off diseases, foliar diseases attack and are seen on the above ground vegetation; stems, leaves, and flowering structures. There are many types of foliar diseases that can effect a specific crop and these diseases may or may not be host specific, this depends on the specific disease. For instance, there is a disease called stripe rust that affects both barley and winter wheat, however the rust that affects winter wheat does not normally affect barley and vice versa. A non-host specific disease would be like anthracnose, this disease grows on a wide variety of plants and can transfer from one host to another when conditions are favorable.

Even though foliar diseases are typically noticed on above ground vegetation, some of these diseases originate in (infected) or on the seed (infested), called seed borne diseases, which means the crop is already infected or infested with the disease before the seed even germinates. The

disease actually developed on the previous year's seed crop, the infected/infested seed from this crop was harvested and then planted the following season. Seed treatments can manage infested seed but not infected seed do not have much control on seed borne diseases because the seed treatments typically manage diseases on the surface of the seed and germinating seedlings. Therefore there is no effect on diseases already established within the plant.

Once a disease is established in a crop, control options are usually limited. Thus management of diseases typically follows the adage "ounce of prevention is worth a pound of cure". Preventative management generally focuses on stopping the disease's life cycle and can be accomplished in many ways. The first step in preventative management is learning about the disease's life cycle and identifying management strategies that can be implemented. Some examples of preventative management strategies would be maintaining healthy crops thru proper fertilization and irrigation, planting disease resistant varieties, managing crop rotations effectively, maintain unfavorable growing conditions in the crop canopy for diseases, sanitation (plowing and/or burning) and some fungicide applications could help. Integrating as many control options as feasibly possible provides the most effective control and prevention.

As we move into summer, spend time scouting fields for various pest pressures that could be economically damaging to the crop yield. Be aware that Wyoming might experience some diseases that are not normally a problem because of this cool wet weather. Also understand that other factors such as nutrient deficiencies, cold damage or others, can also be mistaken for diseases. If you notice some abnormal symptoms in the field, contact specific crop advisors and the local extension office to help identify and provide solutions to this problem.