PLANT DISEASE AND INSECT ADVISORY

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Planting Date Affects Wheat Disease Incidence & Severity

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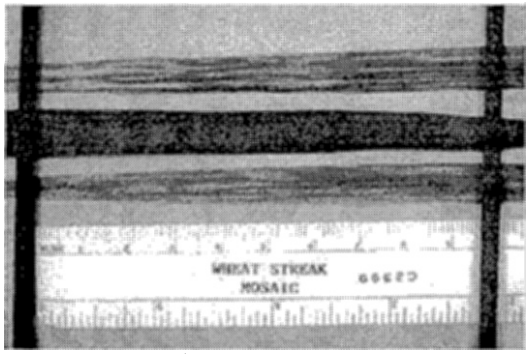
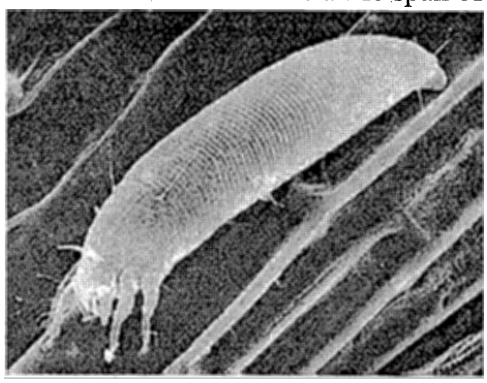
Using wheat as forage for cattle and to produce grain is a common practice in Oklahoma that greatly enhances the economics of farming. In such a dual-purpose system, wheat is planted as early as late August to maximize forage production, whereas in a grain-only system, wheat would be planted in October. Although disease development depends on many factors including the presence of inoculums, temperature, rainfall, and variety planted, early planting increases the likelihood that diseases such as wheat streak mosaic virus, the aphid/barley yellow dwarf virus complex, and the root and foot rots will be more prevalent and more severe.

Wheat streak mosaic virus (WSMV): WSMV occurs primarily in the panhandle and northwestern Oklahoma and is transmitted by the wheat curl mite. These mites survive on crops such as corn, as well as grassy weeds and volunteer wheat, which support the mites as well as the virus. In the fall, mites spread to emerging seedling wheat, feed on that seedling wheat, and transmit the virus to the young wheat plants. Wheat infected with WSMV in the fall is either killed by the next spring or severely damaged. Planting late in the fall (after October 1 in northern OK and after October 15 in southern OK) and controlling volunteer wheat are two practices that provide some control of WSMV. It is imperative to destroy volunteer wheat at least two weeks prior to emergence of seedling wheat because the wheat curl mites have a life span of 10-14 days. Thus, destroying volunteer wheat at least two weeks prior to emergence of seedling wheat will reduce or eliminate mite numbers in the fall.

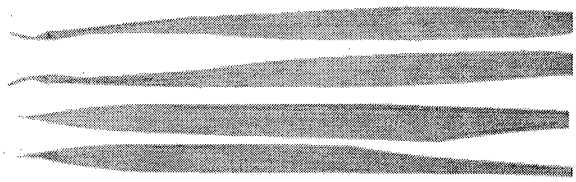




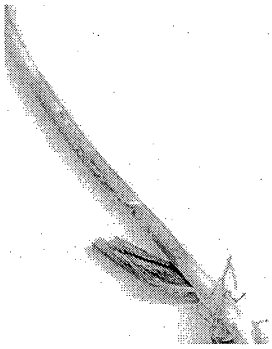
In the spring of 2002, WSMV was observed across much of western OK from the southern to the northern border, so producers should be extra diligent in controlling volunteer wheat and consider the risks of early planting. For more information on WSMV, see OSU Extension Facts 7636 or go to: http://entoplp.okstate.edu/ddd/hosts/wheat.htm.

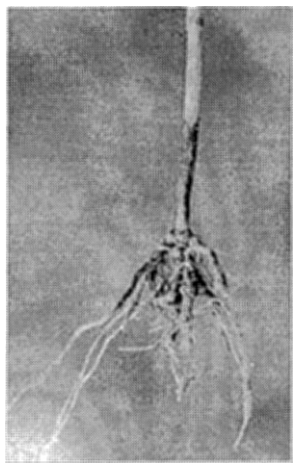
Aphid/barley yellow dwarf virus (BYDV) complex: BYDV is transmitted by many cereal-feeding aphids, and hence, is associated with aphid infestations. However, this should be thought of as an aphid/BYDV complex because both the aphids and the virus can damage wheat. Fall infections by BYDV are the most severe because the virus has a longer time to damage the plant as compared to infections that occur in the spring.

Several steps can be taken to help control BYDV. First, a later planting date (after October 1 in northern OK and after October 15 in southern OK) helps to reduce the opportunity for fall infections. Second, plant a variety that tolerates aphids and/or BYDV. However, please be aware that this is a "tolerance," and not an absolute resistance to the aphid/BYDV complex. Some of these varieties include Custer, 2174, and 2137. Third, control the aphids that transmit BYDV. This can be done by applying contact insecticides to kill aphids, or by treating seed before planting with a systemic insecticide. Unfortunately, by the time contact insecticides are applied, aphids frequently have already transmitted BYDV. Systemic, seed-treatment insecticides such as Gaucho (Gustafson Corp.) can effectively control aphids for up to 70 days after planting, but in some falls no aphids occur and hence the treatment was not necessary. Be sure to thoroughly read the label before applying any chemical. For more information on the aphid/barley yellow dwarf virus complex, go to: http://entoplp.okstate.edu/ddd/hosts/wheat.htm.



Root and foot rots: These include several diseases caused by fungi such as dryland root rot, Rhizoctonia root rot (sharp eyespot), common root rot, take-all, and eyespot (strawbreaker). Controlling the root and foot rots is difficult. There are no resistant varieties or fungicide treatments that control all of these diseases at a consistently high level. Although late planting (after October 1 in northern OK and after October 15 in southern OK) helps limit the incidence and severity of these diseases, it will not entirely eliminate their presence or effects. If you have a field with a history of root rot, plant tha t field as late as possible or plan to use it in a "graze- out" fashion. In addition to planting date, take-all is greatly favored by a high soil pH (>6.5). Thus, when liming fields to correct for acid soils, be sure not to raise the pH above this level. Elimination of residue also helps control take-all, and can be somewhat helpful in reducing many of the other root rots. However, elimination of residue by tillage or burning does not seem to affect the incidence or severity of eyespot (strawbreaker). For more information on wheat root rots, take-all and eyespot (strawbreaker), see OSU Extension Facts F-7622 or go to: http://entoplp.okstate.edu/ddd/hosts/wheat.htm.





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