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Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants, and Extension Personnel

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WHY ARE MY TREES DYING? OR ARE THEY?:

Trees are supposed to be tall and green. And when trees display something other than the expected norm , the worst comes to mind: “My tree is dying!” But upon closer examination, in most instances, trees are very much alive.

Trees cannot be lumped together as trees. Rather, it is necessary to treat trees on a species by species basis. Thus, for instance, when people report that the ends of some branches are brown, a closer look is required to define the situation. On oak trees, Botryosphaeria canker (Figure 1) is very eye catching. And the brown leaves are dead (Figure 2). Bot canker is a fungal disease which, as it progresses, girdles the twig/branch causing that distal/terminal portion to die (Figure 3). However, the twig before the canker is healthy as is the foliage produced on that portion. Its prevalence varies from year to year and tree to tree. There is no treatment against bot canker. It is just a situation that must be accepted. The number of dead terminals is inconsequential in comparison to healthy twigs and branches.

Figure 1

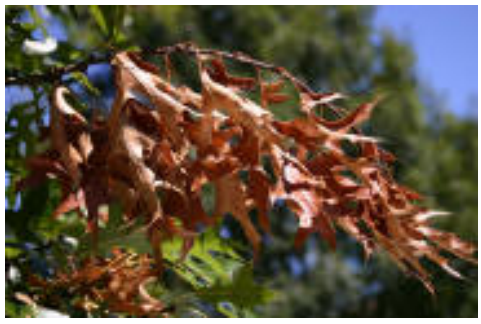

Figure 2

Figure 3

Often, kermes scale are detected when examining dead terminals (Figure 4), and the automatic reaction is that kermes scale are responsible for the dead terminals. Yet as seen on a healthy portion of the twig (Figure 5), normal twig and leaf development and color exist in the presence of substantial kermes populations. In

fact, the kermes on the dead/canker-killed twigs are shriveled and dead (Figure 6) due to starvation which occurred when their food source (the once-live twig) died.

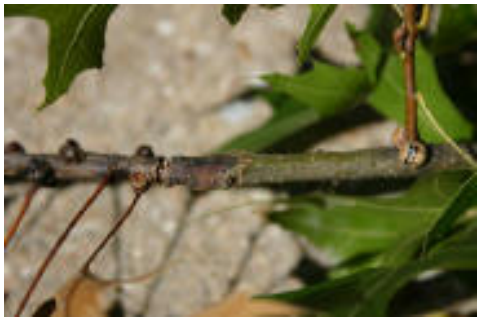

Figure 4

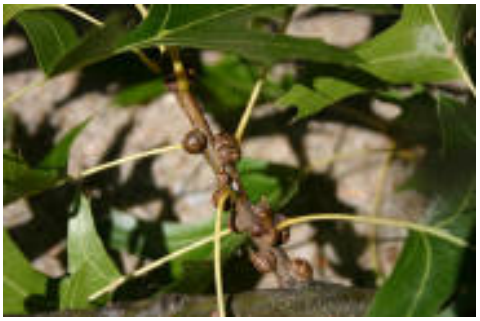

Figure 5

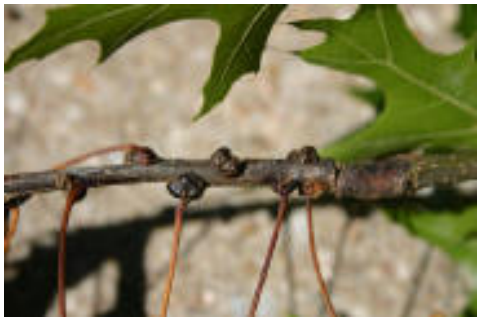

Figure 6

Some honey locusts are displaying browned terminals (Figure 7). Upon closer inspection (Figure 8), it can be seen that this is an insect-related situation: mimosa webworm. At this time of year, we are well into the second generation, and some trees may have completely become brown in appearance (Figure 9). However, despite their stark appearance, the trees are not dead. While the current season's foliage (Figure 10) may have been destroyed, buds leading to next year's leaf production are untouched, and trees will have a full flush of leaves next spring (Figure 11).

Figure 7

Figure 8

Figure 9

Figure 10

Figure 11

There are yearly reports of elm trees which have been killed. In this situation, there is that possibility. Trees with advanced Dutch elm disease lose/drop a majority of their leaves giving trees a “lifeless look” (Figure 12). People ask what they could have done to prevent their trees being killed by Dutch elm disease, and the answer is, “Very little”. While communities (during the Dutch elm disease epidemic back in the late 50's into the 60's) instituted community-wide insecticidal insecticide spray programs against the beetles vectoring the pathogen, elms have since been replaced by other tree species, and thus spray programs have been discontinued. Unprotected elm trees continue to grow with many eventually dying of Dutch elm disease. There is little to done other than remove and discard the dead trees

Figure 12

Other elm trees take on a lifeless look (Figure 13), but are very much alive. Elm leaf beetles and their larvae are (like mimosa webworms) into their second generation of the season, and staggering numbers feeding on foliage cause tree leaves to brown and curl (Figure 14). Again, in this situation, buds for next years leaf production remain in tact, and in the spring, trees will leaf out normal fashion (Figure 15).

Figure 13

Figure 14

Figure 15

Information of fall webworms has been presented in previous newsletters and will not be repeated here, other than to re-enforce that despite the unsightliness of webbing which may envelop an entire tree (Figure 16), fall webworms do not kill trees. Despite consuming all of the foliage which they enclose in their web masses (Figure 17), buds for next years foliage production are unscathed.

Figure 16

Figure 17

Similarly addressed in-depth in previous newsletters, bagworms continue to make people pause and ask whether trees are alive or dead. Bagworms that have defoliated trees such as (for instance) willows and locusts (Figures 18 and 19, respectively) do not kill broadleaf trees (again, the untouched leaf buds scenario). And evergreens such as eastern red cedar (Figure 20) will produces new growth once bagworm feeding ceases. Restored fullness and color (Figure 21) that can be retained if bagworm control is initiated the following season.

Figure 18

Figure 19

Figure 20

Figure 21

Pine trees are another valuable landscape planting. People sometimes become disconcerted when they note a yellowing and browning of needles (Figure 22) in late summer and the fall, followed by a carpet of needles beneath their trees. Although called evergreens, pine needles do not last forever, and have a limited life span (two years for many pine species, longer for others). Thus needle drop is a natural/normal event and should not be cause for concern.

Figure 22

Figure 23

Discoloration in other pine trees (primarily Scotch pine) is of concern. Some trees have taken on a total overall anemic and dried appearance (Figure 24). This is due to pine wilt disease. With pine wilt, needles are retained, but very rapidly (over a period of several weeks) take on a burnt appearance (Figure 25). While Christmas tree producers are well familiar with pine wilt disease, homeowners are surprised when one of their trees (which has provided years of beauty as a part of their landscape) turns brown (Figure 26). Pine wilt/tree death strikes suddenly without warning. Nothing that the homeowner could have done would have prevented this event. Sadly, all that can be done (in these instances) is to have the tree removed, and plant a replacement tree (preferably not Scotch pine) and bide time/years as the new tree grows and adds back to the landscape.

Figure 24

Figure 25

Figure 26

Bob Bauernfeind

Weekly Report from the Kansas State University Insect Diagnostic Laboratory:

The following samples were submitted to the Insect Diagnostic Laboratory from September 1 through September 9, 2004:

9-1-2004, Pottawatomie County: Possible Oriental Fruit Moth in fruit.
9-1-2004, Republic County: Oak Lace Bugs on trees.
9-3-2004, Riley County: Lone Star Tick nymph off person.
9-3-2004, Leavenworth County: Robber Flies on deck of house.
9-7-2204, Riley County: Yellowjacket Wasp from yard.
9-7-2004, Decatur County: Leaf Beetle adult, Sap Beetle larvae in corn.
9-7-2004, Rooks County: Sawtoothed Grain Beetles in home.
9-7-2004, Saline County: Drugstore Beetles in home.
9-7-2004, Ellsworth County: Wolf Spider from yard.
9-8-2004, Riley County: Lone Star Tick nymph from home.
9-8-2004, Lyon County: Flatheaded Appletree Borer from roses.
9-8-2004, Miami County: Combfooted Spider from home.
9-8-2004, Crawford County: Various arthropods.
9-8-2004, Sheridan County: Whitelined Sphinx Moth from garden.

9-9-2004, Shawnee County: Stink Bug Nymphs from Soybeans.

If there are any questions regarding these samples or about the identification of any arthropod please contact the Insect Diagnostician at 785-532-4739 or at bbrown@oznet.ksu.edu.

Bobby Brown

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Sincerely,

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