

BEWARE OF BACTERIAL DISEASES WHEN SCOUTING FOR ASIAN SOYBEAN RUST EARLY IN THE SEASON

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Pictures are worth a thousand words. So the attached images should help you detect early-season bacterial diseases on young soybeans and emerging kudzu leaves while you are scouting for symptoms and signs of Asian soybean rust in Arkansas. Mark Trent routinely encountered the symptoms shown in these images during the past few weeks, especially during the cooler, wet weather in parts of early – mid-April.

Figure 1 shows lesions on the lower leaf surfaces of young soybean plants in southwest Arkansas.

Figure 2 shows more severe lesions.

Figure 3 shows a close-up of the lesions under lower power of a dissecting scope. Note the "water-soaking" around each lesion and the glistening "pustule" or raised dome within the lesion.

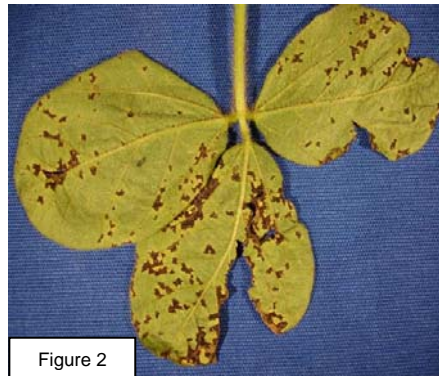
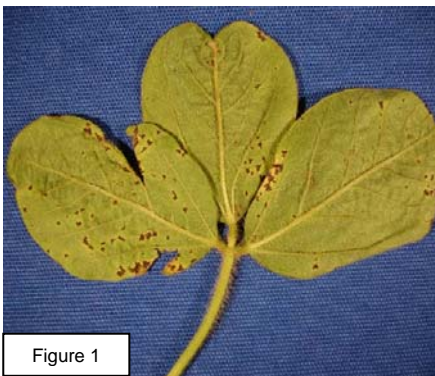


Figure 4 shows these "pustules" under higher magnification.

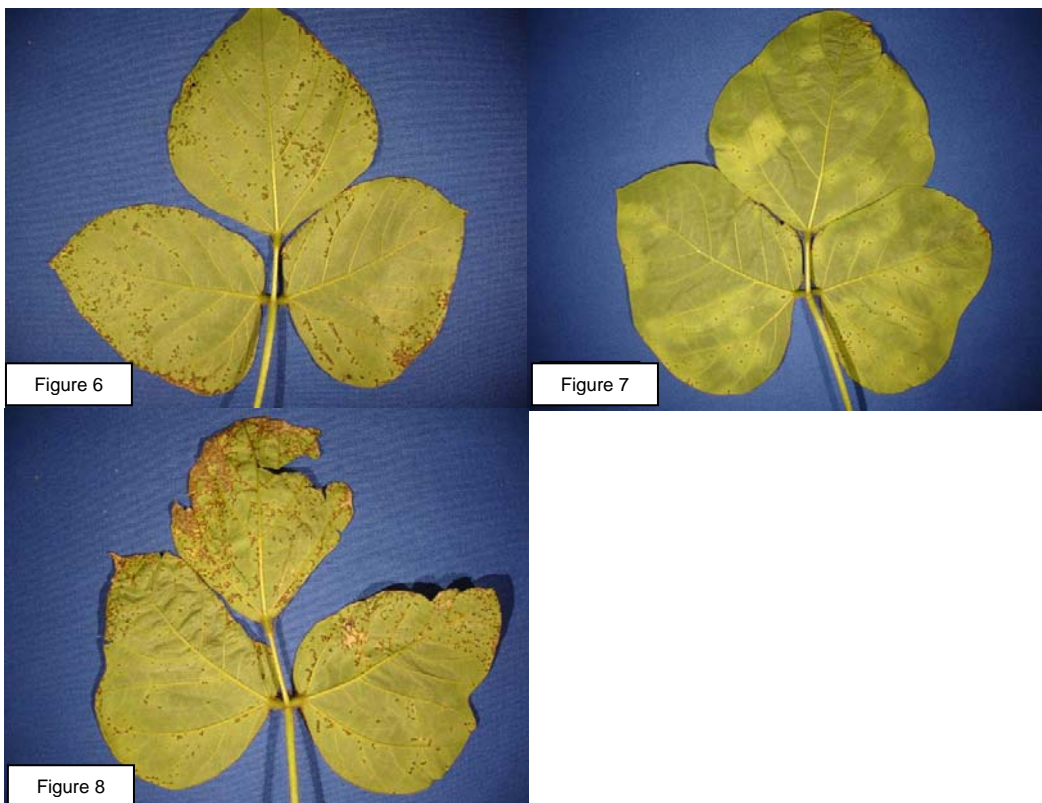


Figure 5 shows a "pustule" that has dried out and could be pried loose from the lesion. These pustules also dissolve readily in water, a characteristic that should be remembered. Under high magnification using a compound microscope, bacterial cells can easily be seen, and streaming from water-soaked tissue is also evident in water mounts (image not available).



These images are provided to illustrate differences between bacterial pustules on early season young soybeans and symptoms and signs of Asian soybean rust. You should have pictures of soybean rust from various publications we distributed during the winter in Arkansas.

Apparently, soybeans are not the only plant affected by bacterial diseases early in the season in Arkansas. An unidentified bacterial disease, illustrated in Figures 6-8, commonly afflicted various kudzu patches inspected by Mark Trent. Figure 6 show symptoms on the underside of a kudzu leaf, while Figure 7 shows symptoms as they appear from the top. Figure 8 shows more severe disease and the resulting leaf distortion. Again, bacterial cell streaming can be easily observed from these fresh lesions in a water mount using a compound microscope and higher magnification.



The bottom line is, symptoms of Asian soybean rust are somewhat inconspicuous and confusing on their own – especially early in the season. And these other diseases are not going to help us in first detection – should Asian soybean rust show up in Arkansas again during the next few weeks. Use care and call your regional contact if any suspicious symptoms are encountered or send fresh samples to the Plant Disease Clinic in Lonoke. Incubation of samples in moist ziplock bags is a really good idea, regardless.

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