

Southwestern cotton rust, caused by *Puccinia cacabata*, has been found on cotton plants in Southern New Mexico (Figure 1). This disease occurs sporadically in the Southwestern U.S. but has the potential to cause serious economic losses up to 50% under favorable environmental conditions. The disease has a complex lifecycle requiring two different host plants, cotton (*Gossypium* spp.) and grama grass (*Bouteloua* spp.), to complete a full disease cycle. During summer rains, the spores produced on grama grass germinate to produce airborne spores which are carried up to eight miles and cause initial infections in cotton. There is no repeating spore stage on cotton. All new infections on cotton are dependent upon spore showers from grama grass. The spores produced on cotton can only infect grama grass. Disease incidence is usually erratic in New Mexico and depends on summer rains, high humidity and an infected source of grama grass for inoculum.



Figure 1. Cotton plant infected with Southwestern cotton rust (Photo: J. Idowu, NMSU)

The most common symptom in cotton is the appearance of bright yellow to orange spots on the upper and lower leaf surfaces (Figure 2 and 3). The spots become brown with age (Figure 4). Spots may appear on any of the above ground parts including bracts and bolls. Severe infections may cause defoliation and dwarfing of bolls. If the weather is

favorable, several spore showers from grama grass may occur throughout the summer “rainy season” increasing the incidence and severity of the disease. On grama grass, the fungus causes black lesions (Figure 5) which produce two different spore types, one infects grama grass and the other infects cotton.



Figure 2. Cotton rust on upper and lower leaf surfaces (Photos: J. Idowu, NMSU, left; and NMSU-PDC, right)

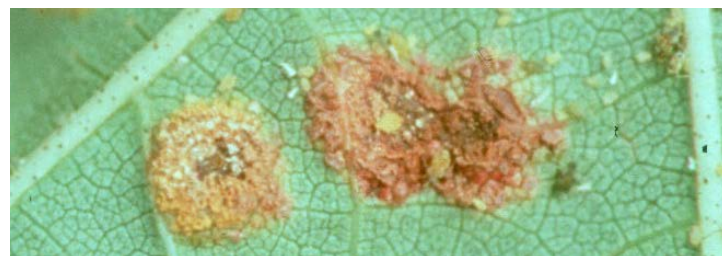


Figure 3. Rust pustules on the lower leaf surface of cotton (Photo: NMSU-PDC)

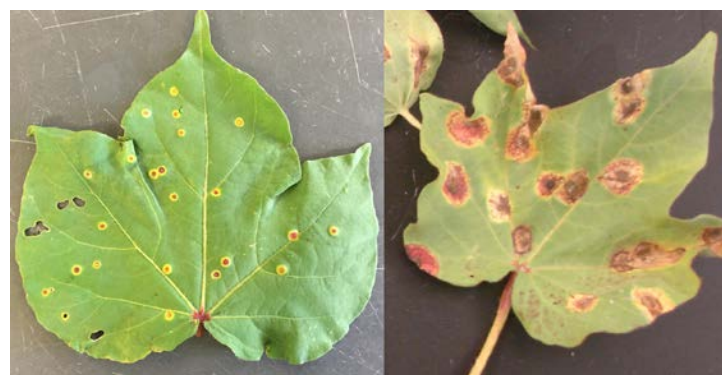


Figure 4. Young cotton rust lesions (left) and old cotton rust lesions (right) (Photos: NMSU - PDC)



Figure 5. Southwestern cotton rust lesions on grama grass (Photo: H. Kaufman, Texas A & M Extension)

Typically cotton rust appears during the “monsoon season” in July and August. Prolonged Leaf wetness (free water on the leave surface) coupled with high humidity and moderate temperatures are factors necessary for epidemics to occur. These environmental conditions are rare in New Mexico making disease outbreaks erratic. This disease can be managed with fungicides; however the unpredictable nature of the disease makes routine applications unwarranted. When outbreaks occur, fungicides may help reduce the severity of the infection. This disease may be controlled by multiple applications of registered fungicides, for example mancozeb or azoxystrobin. Be sure to check product labels for current registration and follow all label recommendations. These fungicides work best when applied preventatively and early in the disease cycle.

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