

**Bacterial Leaf Spot of Cucurbits** – Bacterial leaf spot of cucurbits is caused by the bacterium, *Xanthomonas campestris* pv *cucurbitae*. This disease causes sporadic losses in cucurbit crops grown in temperate climates. In New Mexico, the disease is not common, but can occur when warm, humid conditions are persistent. The disease attacks a number of different hosts including pumpkin, cucumber, gourds, and summer and winter squash.

**Symptoms** – Symptoms may appear on both the foliage and the fruit. On the foliage, the disease causes small somewhat round water-soaked lesions on the underside of the leaf. A yellow spot appears on the upper leaf surface. In a few days, the spots turn brown with a distinct yellow halo (Fig. 1). Leaf lesions may stay small or enlarge to over 7 mm in diameter. As lesions enlarge, they eventually become delineated by veins resulting in angular lesions (Fig. 2).

The appearance on fruit is variable and depends on rind maturity and how much moisture is present. Initial lesions are typically small, slightly sunken, mostly round spots with a tan to beige center (Fig. 3 and 4). As the spots enlarge (reaching up to 15 mm in diameter), they become noticeably sunken and the rind may crack (Fig. 3). Infection extends into the seed cavity of the fruit (Fig. 5). The flesh rots and seeds may become contaminated with the bacterium.

**Conditions for Disease** – The disease is seed-borne and may survive on infected crop debris, but is not known to survive in soil. The disease is favored by warm temperatures and high humidity or wet conditions caused by frequent rains or overhead irrigation. The disease is spread from plant to plant



Figure 1. Bacterial leaf spot on cucurbits (Photo: T. A. Zitter, Cornell University).



Figure 2. Bacterial leaf spot on pumpkin leaf (Photo: Vadim Vlasov, APSnet).

by rain or irrigation splash, and by movement of people or equipment through the field.



Figure 3. Bacterial leaf spot on a white pumpkin (Photo: Jason M. French, NMSU-PDC).



Figure 4. Bacterial leaf spot on pumpkin (Photo: Jason M. French, NMSU-PDC).

**Management** – The most important management practice for this disease is to use disease-free seed or seed that has been treated to reduce or eliminate the pathogen. Other practices which help to reduce the incidence of disease include, crop rotation of at least one year, destroying plant debris by burning or plowing into the soil, and not working in the field when the crop is wet.



Figure 4. Inside of pumpkin infected with bacterial leaf spot (Photo: Natalie P. Goldberg, NMSU-PDC)

In areas where the disease is common, chemical treatments are available to help manage the disease. To be effective, treatment needs to be applied early in the disease cycle. If there are symptoms on the fruit, it is too late to apply chemical treatments. In New Mexico, chemical treatments are usually not warranted.

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