Pacific Pests and Pathogens - Fact Sheets

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Sorghum streaky spot (073)

Photo 1. Early symptoms of sorghum streaky spot, *Xanthomonas vasicola* pv. *holcicola*, showing reddish-brown short rectangular spots.

Photo 2. Early infection: small oval to rectangular reddish-brown spots of *Xanthomonas vasicola* pv. *holcicola.*

Photo 3. Infection of sorghum by streaky spot, *Xanthomonas vasicola* pv. *holcicola.* As the leaves age, so the spots enlarge and some join together. The stems are also infected.

Photo 4. Majority of leaves of sorghum infected by streaky spot, *Xanthomonas vasicola* pv. *holcicola;* those at the base have withered and died. Note the large blotches on the stems.

Common Name

Sorghum streaky spot, bacterial leaf streak

Scientific Name

Xanthomonas vasicola pv. *holcicola*; previously, *Xanthomonas campestris* pv. *holcicola.*

Distribution

Worldwide. Asia, Africa, North and South America, Europe, Oceania. It is recorded from Australia, New Zealand, and Solomon Islands.

Hosts

Sorghum, millet, Johnson grass. Maize is a minor host.

Symptoms & Life Cycle

Narrow, reddish-brown, 2-3 mm wide, 5-15 mm long, somewhat rectangular, streaks appear on the lower leaves (Photos 1&2). During wet weather, these merge to form long irregular streaks and blotches throughout all or much of the leaf (Photo 3). The leaves die and hang down around the stem (Photo 4). Large, irregular reddish-brown to black blotches also develop on the leaf bases and stems.

The disease is unlikely to be seedborne from studies done in other countries. Spread of the disease is likely to be from crop debris in the soil, and from wild grasses. Johnson grass (*Sorghum halapense*), is present on the Guadalcanal Plains and presumably is an alternative host for this bacterium. The bacteria ooze from the spots during wet weather, and are spread in wind and rain. Survival is also on crop debris and wild grasses.

Impact

The spots and streaks merge to form large dead areas on the leaves, usually beginning on the lower older leaves, and progressing upwards. However, the impact of the disease in Solomon Islands is unknown, but it seems that the variety used for livestock feed matures before major damage is done, and yields are, perhaps, little affected.

Detection & inspection

Look for the reddish-brown, rectangular spots on the leaves that spread rapidly and join together, causing a blight, especially in wet weather. Identification of the bacterium requires isolation in the lab, and expert examination of the bacterial colonies using chemical tests.

Management

CULTURAL CONTROL

Before planting:

- Do not plant sorghum on the same land two crops in succession.
- Although the bacterium has not been proven to be seedborne, it is important to use "clean" seed, i.e., seed from crops that were free from the disease before the seed was taken.

After harvest:

- Destroy all the leaves and stems by burning.
- Do not leave the trash to rot in the field, especially if another crop is to be planted on land nearby.

RESISTANT VARIETIES

There is no information on varietal resistance of sorghum to this disease in Solomon Islands, and little elsewhere. Testing different varieties would be worthwhile.

CHEMICAL CONTROL

Chemical control is not appropriate for this disease, especially as sorghum is not grown commercially in Solomon Islands; it is grown for village poultry where use of chemicals would be uneconomic, and hazardous to the poultry as well as to those who eat them.

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Information from CABI (2015) *Xanthomonas vasicola* pv. *holicicola* (streaky spot) Crop Protection Compendium. (http://www.cabi.org/cpc/).

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