

Slippery Skin

Burkholderia gladioli pv. *Alliicola*
(syn. *Pseudomonas gladioli* pv. *alliicola*)

This bacterium requires moisture for infection and grows in the temperature range of 5-41° c (41-106°f). severe disease can occur during periods of high rainfall combined with strong winds or hail. Heavy irrigation and persistent dews are also conducive to this disease. this bacterium is soil-borne and can be readily water-splashed to the foliage and necks where it can enter through wounds. As the plant matures it increases in susceptibility with the mature plant being highly susceptible. in warm weather, approximately 30° c (86°f), infected bulbs can decay within 10 days. However, in storage decay moves slowly, often requiring 1-3 months for a bulb to decay completely. In 'sour skin' the outer most bulb scales and inner bulb scales may not become infected, which distinguishes sour skin from slippery skin where inner bulb scales are infected first.



Figure 2. Mature onion plant with several bleached and wilted inner leaves, characteristic of center rot. Photo credit: Beth Gugino

Bacterial symptom on onion leaf early in infection
<http://extension.psu.edu/plants/vegetable-fruit/news/2014/managing-bacterial-diseases-in-onions>

Harvest onions when bulbs have reached full maturity. Do not store bulbs until they have been properly dried. Minimizing stem and bulb injury and voiding overhead irrigation when the crop is approaching maturity can reduce losses from this disease. Bulbs should be stored at 0-2°C (32-36°F) with adequate ventilation to prevent condensation from forming on the bulbs. (<https://www.seminis.com/SiteCollectionDocuments/Onion-Disease-Guide.PDF>)

B. gladioli pv. *alliicola*, causal agent of slippery skin, is present in many, if not all, storage onion production areas worldwide (4,17). This Gram negative bacterium enters plant tissues via wounds, causing onion bulb rot without external symptoms other than softening of the neck of some infected bulbs (4). Bulb rot symptoms include creamy yellow or yellow-brown, water-soaked discoloration of one or two inner fleshy scales. Infection by *B. gladioli* pv. *alliicola* typically progresses from the top of the infected fleshy scale toward the basal plate, from which infection can spread to adjacent scales (17). Scales with advanced stages of infection may dry out, giving the bulb a shriveled appearance. The name “slippery skin” is derived from the fact that the center scales of an infected bulb “slip” out the top of the bulb if pressure is applied to the base of the bulb. However, this is not always evident in bulbs infected with *B. gladioli* pv. *alliicola*. High temperatures and wet conditions promote slippery skin (17). <http://apsjournals.apsnet.org/doi/pdfplus/10.1094/PDIS-02-12-0117-RE>