Fusarium bulb rot, caused by the fungus *Fusarium proliferatum*, is an emerging disease on onion in Idaho. This bulb rot occurs in storage and shows symptoms similar to neck rot. Symptoms usually start at the neck and progress down along the fleshy scales, but the basal plate is not affected. Infected scales become translucent yellow and water-soaked, later turning tan-brown and soft. Frequently, the rot appears to progress down from the neck along a single fleshy scale in the bulb. In most cases the infected bulbs do not show any pronounced external symptoms or signs of infection. Currently, there are no control measures known for this disease as the mode of infection and conditions required for disease development are poorly understood. Fungicide sensitivity testing was done on a range of fungicides which have shown potential for the control of *F. proliferatum* using spiral plate dilution gradients.

**Materials and Methods**

Obtain isolates from infected onions. Fusarium isolates from infected onions are collected along the margins of infected tissue. Deionized water is added to plates to create a spore suspension (1x10^4 conidial/mL is optimal). Allow isolates to grow for about 3 weeks on PDA. After the fourth day scan each plate and measure the growth to encourage sporulation. After plates are producing plenty of spores, flood with deionized water and scrape the plates to create a spore suspension (1x10^4 conidial/mL is optimal). Incubate plates for 4 days.

Prepare fungicide solutions at 10,000PPM. Using the spiral plater apply the solution to 15cm plates of PDA amended with rifamycin and ampicillin. Allow plates to sit for at least 4 hours so the fungicide can set in. Three lines of spore suspension (1µL) are added to each plate. Let spore plates grow for about one week. Then choose the plate from each original isolate that looks best. This isolate is transferred onto fresh media for further testing.

This isolate is transferred onto fresh media for further testing. If there is any growth, then compare to the control.

**Results**

An array of different fungicide sensitivities in the isolates of *Fusarium proliferatum* was observed ranging from complete sensitivity as seen in fluopyram + tebuconazole to complete resistance as seen in cyflufenamid (Graph 1). Isolates showing EC50 values above 50ppm were considered moderately resistant while EC50 values above 500ppm were considered fully resistant.

**References:** Methods were adapted from APS Vol 94. No. 2 p. 163-170 Helga Forster et al. 2003.

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