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PACIFIC NORTHWEST AGRICULTURE

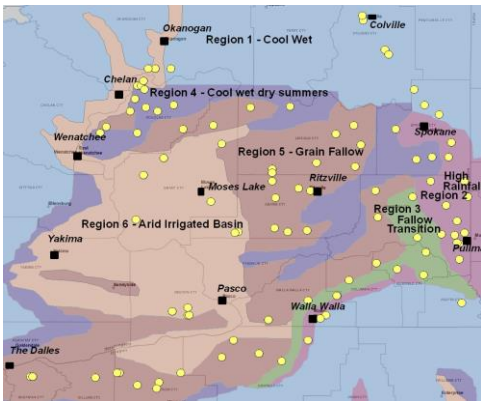
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Presentations



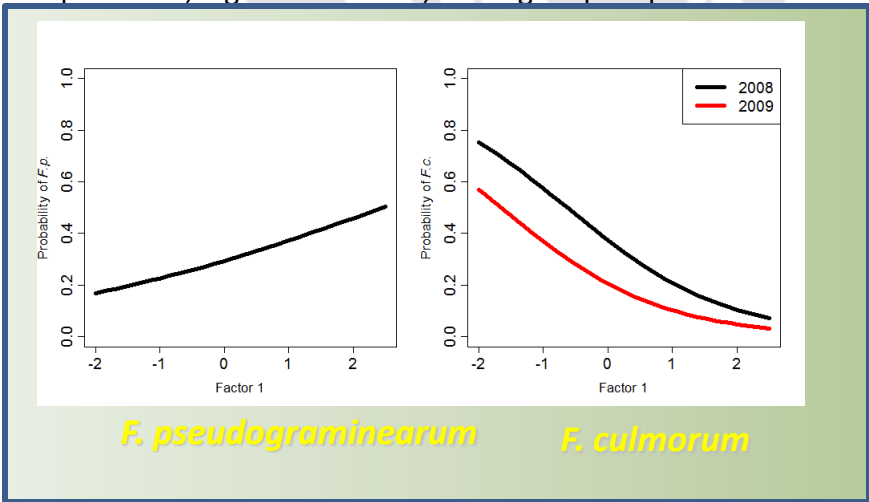
Distribution of Fusarium Crown Rot in the PNW- Relationship with Climate Factors

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Fusarium crown rot is a yield limiting disease in wheat across the dryland PNW. It can cause up to 35% yield loss, and is caused by a complex of two species, *Fusarium pseudograminearum* and *F. culmorum*. The disease is triggered by drought stress in the plant and excess N fertilization. Thus, it has a strong interaction with precipitation and temperature. Extensive surveys were conducted in 2008 and 2009, with over 500 samples from 100 locations each year. Disease (crown rot and node scores) and incidence of each species was measured at each location. Climatic data was obtained for each GPS location, based on 30 year average data sets. Generalized linear mixed models and factor analysis was used to analyze the data. Two factors, based on temperature and precipitation explained a large amount of the variability. *F. pseudograminearum* is associated with drier, high temperature locations, whereas *F. culmorum* was associated with cooler temperatures, higher elevations, and higher precipitation.



- 1) Symptoms of Fusarium crown rot.
2. Survey sample sites
3. Relationship of Fusarium spp. with factor 1, heavily loaded by mean annual temp, temps in coldest and warmest month



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