

G.S. Long Co. Union Gap, WA

Austin Gaghan Summer 2016

Introduction:

This Summer I began my full time employment with G.S. Long a chemical company based in Union Gap, WA which also offers crop consulting services for a wide variety of crops. G.S Long originally began in 1980 and has been family owned and operated since. The company service areas stretch from Wenatchee, WA to Hood River, OR providing top quality crop protection, nutritional inputs, product delivery, and crop consulting.

My First Season:

To begin my career at G.S. Long I was assigned to scout hop yards for a crop consultant who's main clients are located in the Yakima valley. The responsibilities of a field scout are to enter a field, identify what kinds of pests and diseases are present, quantify those pests and diseases, write a small report on each field, and finally present the information to the crop consultant and the growers so that they can form an effective integrated pest management plan for the coming week. We visit twelve growers each week and each grower once a week in total covering 7,200 acres of hops from Moxee, WA to Prosser, WA. The most common insects that we deal with are aphid (Fig. 1), two spot spider mite (Fig. 2), Lepidoptera larvae (Fig. 3), Stethorus, and typhlodromus mites. Not all of which are pests Stethorus (Steth) and typhlodromus (typh) are both predatory species which feed on two spot spider mites. The diseases that we most commonly face include powdery mildew (Fig. 4), downy mildew(Fig. 5), and viruses.

My introduction into the crop consulting and by extension the agricultural chemical industry began with being able to identify and quantify these pests and diseases so that I could begin to learn how to control them in an effective, economically viable, and environmentally safe way. While I still have a mountain of information to learn about the actual integrated pest management portion, this was a good way to introduce me to how the industry works and gain a basic understanding of common farming and IPM practices for hops grown in the Yakima valley.



Figure 1: A severe infestation of aphid on the leaf of an organic cascade. Aphid reproduce asexually and can take over a plant if not controlled. The large green and yellow aphid are the adults and the smaller pale green aphid are newly budded offspring.



Figure 2: A severe infestation of two spot spider mite. As per their name sake these mites spin webs. These webs are used to lay eggs on as well as providing protection. As the webbing gets heavy it will begin to collect dust which effectively makes a cocoon around the mites protecting them.

Summary:

Overall I have thoroughly enjoyed my first season with G.S. Long I have learned a lot, but more importantly I have learned what topics I need to study and educate myself on for the future. It was a great way to start out what will hopefully be a long and successful career as a crop consultant with this company.



Figure 3: Lepidoptera larvae are a common hop pest. There are many different species that infest hops. The one shown in the figure is a Lacanobia larva otherwise known as "big bertha". The worm in the picture rolled up is about the diameter of a quarter and approximately a cm or two tall.



Figure 5: A downy mildew infection found in a CTZ yard. These infections are more commonly known as spikes. When infected the live tissue becomes that very light green/ yellow that can be seen in the top right corner of the picture. All of the black/ brown areas that can be seen are where the mildew is feeding on the plant and producing spores causing desiccation.

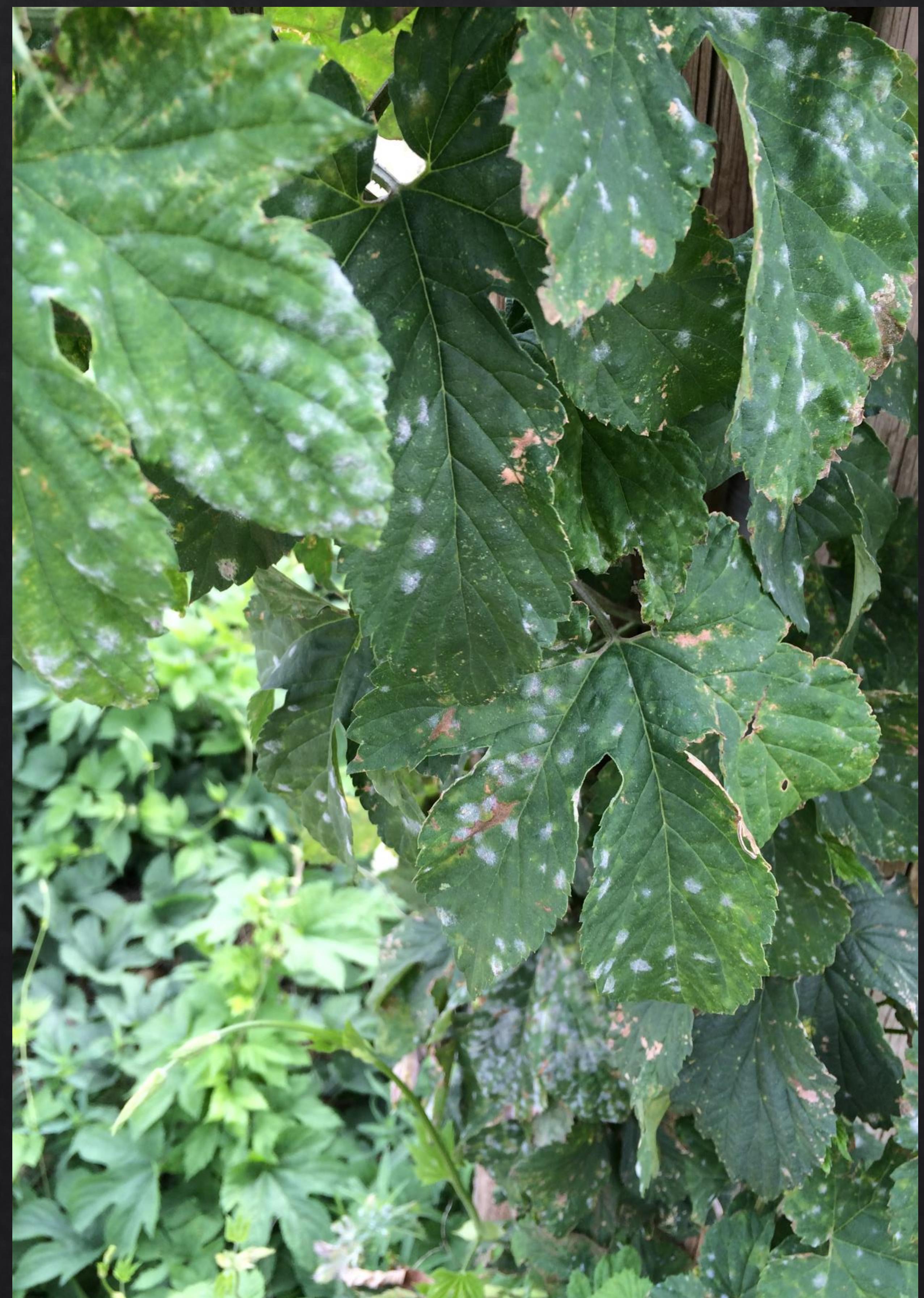


Figure 4: Powdery infections seen covering leaves. Each one of those white areas is the fungal mycelium of the powdery mildew. Each of those infections contain millions of conidia which can spread to other surrounding plants.