

Cultural Considerations

Dusting	Sulfure and copper may be effective if able to spread on underside of the leaves. However, they don't migrate like other fungicides as the leaf grows. Too much creates a plant toxicity issue.
Spacing	Consider going back to 40" beds were practical. Mildew is a water mold so airflow is key.
Bed Orientation	Align beds in the direction of the prevailing winds for air flow.
Dusting rigs	Magnetizing seems to work better than electrostatic charging for underside coverage.
Dusting rigs	Spraying fungicides from the side and up is more effective than the traditional top/down.
Soil Ph	Monterey mushroom using a soil ph of 11
Disking	Under cut, plow, then burning the row is a best practice. Just disking allows mold to survive longer on plant material.
Irrigation	Irrigating in am and early pm without splashing into open stomas. Splashing at wrong time can force soil borne mold into the plant. Night irrigation provides maximum moisture to the mold
Irrigation	Overhead sprinkler has more risk of splashing infected soil into the plants
Irrigation	Adding organic silicon to water reduces surface tension and allows leaves to dry faster
Irrigation	Grape and berry industry adds sulfur to irrigation water.
Education	LGRB will provide a visual life cycle so growers understand where the critical points are.
Fungicide	List of current fungicides and efficacy.
Soil	Additives to increase soil moisture could reduce irrigation
Wind Generation	Consider using wind generation to keep air moving and reduce moisture levels.

Research

Plant Pathologist	Hire a dedicated plant pathologist (Koike type) to focus on the mildew research
Testing Standard	Need a base line test for comparison if we require seed lot testing
Sample Protocol	Publish protocol for sampling in tissue and soil
Soil Testing	Build data base on soil health when infection occurs (Trace Genomics)
Seed Test	Ag Bio Science (Ryan Ranch, Monterey) working on a test to detect DNA of the mold. If successful it wont identify the race, just a 2-3 day "early warning" on infection.
Chemical	Phosphates show promise. Challenge is finding an organic source to supply (CPS)
Genetics	Gnome work is key according to UC Davis. Need to approach the NOSB board. Drive a formal answer on "crisper" technology
UV	UV light Is effective in a lab setting
Variety	Higher BRIX levels seem to correspond with higher resistance to powdery mildew in

lettuce. Seeing signs of BRIX level and resistance in spinach. Need more data.

Seed Production

Advance trials of Metalaxyl and Orondis (Correll) in seed reduction

Seed Production

Should we consider trials of PLA concentrations ?

Seed Production

Expand trials of adding bacillus to seed

Fungicide

Brew ACCT (actively aerated compost tea) to use as an anti-microbial spray on leaves.

Seed

Variety

Expand infection rate data (Klosterman, Correll) to include new varieties

Testing

Ask seed companies to test for rusting spores and demand clean seed until we know for sure (similar to testing for verticillium).

Testing

Ask processors to accumulate varietal information to lay across Correll work

Treatment

Steam process with vacuum shows promise if beneficial bacteria is added back so the husk can break down naturally

Treatment

Ridomil during the seed growing cycle can be beneficial (Correll)

Treatment

Combining Acti-Guard and copper in the milling process shows some promise

Treatment

RS can use a hot water bath but it reduces the germ rate

Treatment

Steam treatment with adding beneficial bacteria back to protect germination

Soil

Soil

Need more data on healthy plants versus infected plants: root structure, minerals in the soil, moisture content

Soil

Bio specifics and Trace Genetics offering free soil testing. Building efficacy data and soil health in relation to infection rates

Drone

GeoVisual Analytics looking at infrared imaging to understand signature of healthy plants versus infected one. Theory is healthier plants have higher moisture content and different infrared signature.

Other

NOSB

Investigate joining the NOSB. Current make-up and position is a problematic for organic vegetables in general