Black Rot: risk is greatest from just before bloom until about 6 weeks after bloom. So if the risk is >1 during this time period then there is a pretty good likelihood that infections could occur. About 6 weeks after bloom the fruit become resistant. **Risk > 1 (> 7 hrs leaf wetness)** indicates protectant spray needed (black arrows below) to prevent infection on 25-26, 29-30 April, 4, 6-7, 10, and 31 May and 1-2, 6-7, 23-25 June and 11-12 July, 20-23, 28-29, 31 August and 11 September.

Botrytis: NC recommends 4 sprays, one at bloom, closing, veraison and preharvest. Bloom spray may not be needed in AR which may be supported by the botrytis model. If conditions aren't favorable then you could probably omit the spray safely. I'd be more cautious with the spray at closing and just include a botrytis spray at veraison and preharvest. **Risk > 1 indicates high risk of infection on 25 April (pre-bloom, so no problem), 4 and 31 May to 1 June due to 17 Hours with air > 95% RH and > 15 hours of leaf wetness (black arrows indicate spray timing)**
**Downy Mildew:** First infections usually occur when there is 5-10 inches of shoot growth and foliar infections can occur through the summer and into the fall.** Vines are most susceptible from about 2 weeks before bloom until 4 weeks after bloom.** The model should give an idea of when leaf infections have occurred during the summer. Since the phosphorus acid products are primarily eradicants, after model predictions of infections would be a good time to use them.

**Risk > 2 indicates high risk of infection on 10 May, 31 May to 1 June, 6-7, 12, 18, 22-25 June, 10 and 12 July, 11, 20-23, 27-29 August, 11 September** (black arrows indicate spray timing).

**Powdery Mildew:** Infections can occur soon after bud break. **The most important sprays must protect fruit a week or 2 before bloom to about 1 month after bloom on vinifera.** The model requires 3 consecutive days with at least 6 hours between 70-86°F to trigger the conidial index which increases 20 points each day with at least 6 hours between 70-86°F. Index decreases 10 points each day with less than 6 hours between 70-86°F or any day with a minimum temperature above 95°F. **Conidial index increasing past 60 (blue horizontal line below) means pathogen will be producing conidia in 5 days.** Needed powdery mildew fungicide protectant sprays (see black arrows below) by: 30 April, 17 and 27 May, 11, 21 June and heavy risk of infection after 4 July to late August. An index of 0-30 indicates the pathogen is functioning minimally and reproductive rate is every 15 days or not at all.
Graph of leaf wetness and soil moisture at UA-Farm in Fayetteville, AR. Not seen at this site, but when reading is > 60 kPa then soil moisture is too dry.