

# Seasonal Primary Pest Occurrence in Michigan Hopyards

	Date	April					May					June				July				August				September				
		7	14	21	23	27	1	8	15	22	29	7	17	21	28	4	11	18	25	1	8	15	22	29	5	12	19	26
	DD Base 50 <sup>1</sup>	6	20	43	46	60	71	96	180	270	320	500	645	731	832	947	1099	1262	1459	1620	1790	1909	2024	2147	2276	2350	2400	2476
	Growth stage <sup>2</sup>	Bine emergence					Vegetative growth					Sidearm formation				Cone development and maturation				Harvest								
		Dormant					Vegetative growth					Burr stage				Harvest												
Pest	Pest lifestage																											
Downy mildew	Systemic infection	Begin treatment at 6"																										
	Secondary infection	Continue treatments on a 7-14 day schedule up until harvest																										
Two-spotted spider mite	Overwintering females	Monitor for activity as temps warm																										
	Eggs and motiles	Monitor populations of eggs and motiles weekly, treat as needed																										
Potato leafhopper	Arrive on spring storms	Scout carefully following spring storms																										
	Eggs, nymphs and adults	First generation egg laying					Eggs, nymphs and adults may be present at this time, treat as needed																					
Rose chafer	Adult beetles	Beetles present, treat as needed																										
Japanese beetle	Adult beetles	Beetles present, treat as needed																										
Powdery mildew*	Initial infection	Flag shoots emerge, mechanically prune to remove																										
	Secondary infection	Secondary disease cycle, favored by rapid plant growth, mild temperatures and high humidity. Treat with fungicide as needed.																										

1. Degree day accumulation based on 5-year average at the Fremont Enviroweather Station.

2. Growth stage is highly dependent on location, annual weather fluctuations and cultivar, this table is meant as a guide to estimate pest activity in Michigan.

\*Powdery mildew is not a primary pest for growers in Michigan, but is a critical pest in greenhouses and other production regions and so has been included in this table.