2022 PEST MANAGEMENT GUIDE: DISEASE

THE UNIVERSITY OF MAINE Cooperative Extension

Cultural Disease Management

CULTURAL DISEASE MANAGEMENT FOR WILD BLUEBERRY		
DISEASES MANAGED	**METHOD**	**COMMENTS**
Mummy Berry, *Monilinia vaccinii-corymbosi*	Fire Pruning, use efficient harvesting techniques. Mulching with material to a depth of 2" to 3" before crop emergence to prevent mummy berries from germinating. Reducing the number of infected fruits on the ground by composting or disposing of winnower refuse away from the field can reduce mummy berries in the field.	Burn pruning can decrease approximately 50% of mummy berries (pseudosclerotia). If litter is too wet, then sanitation will be incomplete. Mulching under clones with lots of mummy berries visible at harvest can decrease inoculum for following years.
Blossom and Twig Blight, *Botrytis cinerea*	None.	Fungus can attack hundreds of plants; scouting of early blooming clones is important.
Valdensia leaf spot, *Valdensia heterodoxa (*formerly *Valdensinia*)	Intensive Fire Pruning, destroying ALL leaf litter of infected area and within 10' of infection. Clean equipment, shoes & clothing; avoid entering infected areas when wet. Clean equipment between fields.	All leaf litter must be burned to ensure eradication of fungus. The spores are not carried by wind or water, but can be transported on leaf contaminated equipment, clothing or shoes.
"False Valdensia" (fungus not yet identified")	Fire pruning to decrease infected plant material.	
Red-Leaf, *Exobasidium vaccinii*	Avoid spreading spores (white patches on the underside of infected leaves) by not walking through diseased areas from approximately middle of June through August.	Spores may further spread by disturbing infected tissue when it is producing spores.
Exobasidium leaf and fruit spot, *Exobasidium maculosum*	Fire pruning to decrease infected plant material. Avoid spreading spores (white patches on underside of lesions on leaves by not walking through diseased areas from approximately middle of July through August.	
Sphaerulina Leaf–Spot, *Sphaerulina (old name Septoria)*	Fire pruning to decrease infected plant material.	
Powdery Mildew, *Erysiphe* (formerly *Microsphaera*)	Fire pruning to decrease infected plant material.	
Leaf Rust, *Thekopsora*	Fire pruning to decrease infected plant material.	
Stem Blight, *Phomopsis* or *Godronia*	None at this time.	

Chemical Disease Management

NOTE: THIS CHART IS NOT A SUBSTITUTE FOR READING AND FOLLOWING THE LABEL. It is unlawful to use any pesticide for other than the registered use. Read and follow the label on the product container. The user assumes all responsibility for use inconsistent with the label. Trade names are used for identification. No product endorsement is implied, nor is discrimination intended against similar materials. Cooperative Extension makes no warranty or guarantee of any kind concerning the use of these products. **Check with your processor regarding PHI restrictions or MRL restrictions for export sales.**

Extremely toxic to fish | Moderately toxic to fish | Extremely toxic to bees | Moderately toxic to bees | Extremely toxic to birds | Moderately toxic to birds | Extremely toxic to people | Moderately toxic to people

FUNGICIDES

GROUP[a]	USE[b] & TOXICITY		FUNGICIDE & SIGNAL	ACTIVE INGREDIENT	TIMING: CROP CYCLE	RATE: PER/ACRE & MAX/ACRE/YR	PHI DAYS	REI HOURS	NOTES[c] (LOCALLY SYSTEMIC, LOS; NON-SYSTEMIC, NS; SYSTEMIC, S), DIMETHYL INHIBITION = DMI
3	MB		Indar 2F (CAUTION)	fenbuconazole	CROP	6 oz **Max:** 4 app; 24 oz (0.75 lb ai)	30	12	Apply with 1% v/v COC. Apply at green tip/when >30% stems have blossoms at crown stage for mummy berry. Follow the mummy berry forecast method to time applications or apply every 7 to 10 days following the calendar method. **DMI, LOS**
			Quash (CAUTION)	metaconazole	CROP	2.5 oz **Max:** 3 app, 7.5 oz (0.234 lb ai); 2 sequential app	7	12	Apply at green tip when >30% stems have blossoms at crown stage for mummy berry. Follow the mummy berry forecast method to time applications or apply every 7-10 days following the calendar method. Rotate to a product not Group 3. **DMI, LOS**
			Bumper;Tilt (WARNING)	propiconazole	CROP	6 oz **Max:** 30 oz (0.84 lb ai all propiconazole products); 2 seq. app	30	12	Apply at green tip/when >30% stems have blossoms at crown stage for mummy berry. Follow the mummy berry forecast method to time applications or apply every 7 to 10 days following the calendar method. See label for additional disease control. **DMI, LOS**
	MB LS VLS		Proline 480 SC (CAUTION)	prothioconazole	PRUNE OR CROP	5.7 oz **Max:** 2 app; 11.4 oz (0.356 lb ai); 2 seq. app	7	12	Apply at green tip when >30% stems have blossoms at crown stage for mummy berry. Follow the mummy berry forecast method to time applications or apply every 7 to 10 days following the calendar method. See label for additional disease control; for Valdensia suppression only. Product has potential to leach. **DMI, LOS**
3 & 9	**LS**		Inspire Super (CAUTION)	cyprodinil and difenoconazole	PRUNE	16 to 20 oz **Max:** 80 oz (1.3 lb ai of cyprodinil; 0.46 lb of difenoconazole)	0	12	Apply before disease onset. Apply on a 7 to 14-day schedule with no more than 2 sequential applications before alternating to another fungicide with a different mode of action **DMI, LOS**
3 & 11	**MB**		Quilt Xcel (WARNING)	azoxystrobin & propiconazole	CROP	14 to 21 oz **Max:** 3 app; 21 oz per app; 63 oz per yr (0.84 lb ai propiconazole and 0.75 lb ai azoxystrobin); 2 seq. app	30	12	Apply at green tip when >30% of flowers buds are at crown stage for mummy berry. Follow the mummy berry forecast method to time applications or apply every 7-10 days following the calendar method. Avoid adjuvants with silicone. Tank-mixing with EC products can lead to phytotoxicity. Rotate to a product that is not Group 11 or 3. **DMI, LOS**
7	**LS**		Aprovia (DANGER)	benzovindiflupyr	PRUNE	10.5 oz **Max:** 1 app; 10.5 oz (0.068 lb ai all benzovindiflupyr)	365	12	Apply in prune year only. Apply at first sign of disease. NIS or vegetable based COC recommended. Do not mix with oxidizing agents. **LOS**
	MB		Kenja 400SC (CAUTION)	Isofetamid	PRUNE	13.5 to 15.5 fl oz **Max:** 54 fl oz; 1.4 lb ai; 2 seq. app or 3 app in total	0	12	Start applications prior to disease development and continue on 14-day interval if necessary. Do not make more than 2 sequential applications of Kenja or other group 7 fungicides before rotating to a fungicide with a different mode of action. FIFRA 2(ee) recommendation for mummy berry control **LOS**
	MB		Fontelis (CAUTION)	penthiopyrad	CROP	16 to 24 oz **Max:** 72 oz per year; 24 oz per app; 2 seq. app	0	12	Apply at green tip/when >30% stems have blossoms at crown stage for mummy berry. Follow the mummy berry forecast method to time applications or apply every 7 to 10 days following the calendar method. **LOS**
7 & 9	**MB**		Luna Tranquility (CAUTION)	fluopyram and pyrimethanil	CROP	13.6 to 27 oz **Max:** 54.7 oz per year, 2 seq. app (0.446 lb ai all fluopyram products, 2.1 lb ai all pyrimethanil products)	0	12	Apply at green tip/when >30% stems have blossoms at crown stage for mummy berry. Follow the mummy berry forecast method to time applications or apply every 7 to 14 days following the calendar method. **LOS**
7 & 11	**MB**		Pristine (CAUTION)	pyraclostrobin & boscalid	CROP	18.5 oz **Max:** 4 app; 92 oz per yr; 23 oz per app* (for all Group 7 or 11 products); 2 seq. app	0	12	Apply at green tip/when >30% stems have blossoms at crown stage for mummy berry. Follow the mummy berry forecast method to time applications or apply every 7 to 10 days following the calendar method. Avoid application when soil is saturated or when significant rainfall expected within 48 hrs. Product has high runoff potential for several months. Rotate with a fungicide with a different mode of action. Avoid applying during bloom when bees are present. May only be applied with water as the carrier and only be tank mixed with captan.
9 & 12	**BBB**		Switch 62.5 WG (CAUTION)	cyprodinil & fludioxonil	CROP	11 to 14 oz **Max:** 56 oz (1.3 lb ai cyprodinil, 0.9 lb ai fludioxonil); 2 consecutive app	0	12	Apply when Botrytis symptoms seen in early clones and at 7 to 10-day intervals when conditions favor disease development. Avoid application when soil is saturated or when significant rainfall expected within 48 hrs or within 75 ft of water bodies. After 2 consecutive applications, rotate with a fungicide with a different mode of action for 2 applications. **S**
17	**BBB**		Elevate 50 WDG (CAUTION)	fenhexamid	CROP	1.5 lb **Max:** 6 lb (3 lb ai all fenhexamid products)	0	12	Apply at 10% bloom for Botrytis when symptoms seen in early clones. Apply every 7-10 days when conditions favor disease development, but no more than 2 consecutive applications. See supplemental label. **LOS**
M4 & 17	**BBB**		CaptEvate 68 WDG (DANGER)	captan & fenhexamid	CROP	3.5 to 4.7 lb **Max:** 21 lbs (14.3 lb ai; 3 lb ai fenhexamid, 35 lb ai captan)	0	48	Apply at 10% bloom for Botrytis when symptoms seen in early clones. Repeat every 7-10 days through petal fall. Do not make more than 2 consecutive applications. **NS**
M5	**LS**		Bravo WeatherStik; Equus 720 SST (WARNING)	chlorothalonil	PRUNE	3 to 4 pt **Max:** 12 pt (9 lb ai all chlorothalonil)	42	12	Apply in prune year for Septoria leafspot or leaf rust at 10-day minimum intervals. Do not add pesticides, fertilizers, or adjuvants unless tested, as phytotoxicity may result. Do not mix with Dipel, Foil, Triton or Latron. Do not apply after early bloom or may damage developing fruit. High runoff potential for several days to weeks. **NS**
44	**MB BBB**		Serenade ASO *(OMRI expires 6/1/21)* (CAUTION)	*Bacillus subtilis*	CROP	2 to 4 qt **Max:** ---	0	4	For *Monilinia* suppression, begin application at bud break and repeat every 7-10 days as needed. For Septoria leafspot or leaf rust, begin application prior to disease and repeat every 7-10 days, up to harvest. Spray solution should be pH 4.5-8.5. Rotate with products with other modes of action. **NS**

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***Please note: This revised version replaces any previous charts. ***

[a]**To reduce the likelihood of fungicide resistance** developing in target fungi, growers should rotate between fungicides with different group numbers, ideally using multiple group numbers. Products with the same group number should not be used in consecutive sprays.

[b]**MB = Mummy Berry, BBB = Botrytis Blossom Blight, LS = Leaf Spots (powdery mildew and Sphaerulina (Septoria) leaf spot and leaf rust), VLS = Valdensia Leaf Spot**

[c]**Some fungicide products move locally through leaves and are therefore locally systemic. LOS = Locally Systemic, NS = Not Systemic, S= Systemic.**

The mode of action for Group 3 fungicides is Demethylation Inhibition = DMI.