

Summary of Fungicide Options for Botrytis Fruit Rot (Gray Mold) Anthracnose Fruit Rot, and Neopestalotiopsis Disease of Strawberries

This table is to help you rotate among fungicides that are expected to be useful for managing Botrytis fruit rot (gray mold), anthracnose fruit rot, and Neopestalotiopsis disease. Many products that were formerly effective against Botrytis and some (FRAC 11 products) that were effective against anthracnose are no longer expected to work well due to resistance issues. More information on strawberry disease management is available at in the Southeast Regional Strawberry Integrated Pest Management Guide Focused on Plasticulture Production, which can be accessed on the [Southern Region Small Fruit Consortium IPM/Production Guides](#) page.

FRAC group(s) ¹	Product	Botrytis fruit rot efficacy rating ²	Anthracnose fruit rot efficacy rating ²	Neopestalotiopsis efficacy rating ²	Max # of applications	PHI (days)	REI (hrs)	Notes ³
M04	Captan 80 WDG	G	G	P	8 @ 3.75 lb/ac to 16 @ 1.875 lb/ac (max. 30 lb per ac per crop cycle)	0	24	Example label: Captan 80 WDG 1.875 – 3.75 lb/ac for grey mold and leaf spot, 3.75 lb/ac for AFR
M04	Captan 4L	G	G	P	8 @ 3.0 qt/ac or 16 @ 1.5 qt/ac (max. 24 qt per acre per season)	0	24	Example label: Captan 4L 1.5 – 3 qt/ac for grey mold and leaf spot, 3 qt/ac for AFR
M03	Thiram SC	G	F	G	12 apps east of MS River 5 apps west of MS River	1	24	Label: Thiram SC 1.5 – 2.5 qt/ac for grey mold, 2.0-2.5 qt/ac for AFR and Mycosphaerella (common) leaf spot
3	Rhyme (flutriafol)	--	--	F	4 @ 5 to 7 fl oz	0	12	Label: Rhyme Neopestalotiopsis is not on the label, but it is labeled for use on other diseases of strawberry.
3	Tilt (propiconazole; there are also generics)	P	F	F	4 @ 4 fl oz	0	24	Label: Tilt “Make no more than 2 consecutive applications before rotating to another registered fungicide with a different mode of action” Neopestalotiopsis is not on the label, but it is labeled for use on other diseases of strawberry.
7	Kenja ⁴ (isofetamid)	E	--	--	3 @ 15.5 fl oz/ac or 4 @ 13.5 fl oz/ac (max. 54 fl oz per ac per yr)	0	12	Label: Kenja “Do not make more than 2 sequential applications of KENJA 400SC or other Group 7 containing fungicides before rotating to a fungicide with a different mode of action. Do not apply a third application of KENJA 400SC within 28 days of the second application.”
7 + 12	Miravis Prime ⁵ (pydiflumetofen + fludioxonil)	E	G	G	2 @ 9.1 to 13.4 fl oz (max. 26.8 fl oz per ac per yr)	0	12	Label: Miravis Prime 9.1 – 13.4 fl oz/ac for grey mold or powdery mildew, 11.4 - 13.4 fl oz/ac for anthracnose; “Do not make more than two consecutive applications of Miravis Prime or other Group 7 and 12 fungicides before alternation with a fungicide that is not in Group 7 or 12.”

FRAC group(s) ¹	Product	Botrytis fruit rot efficacy rating ²	Anthrachnose fruit rot efficacy rating ²	Neopestalotiopsis efficacy rating ²	Max # of applications	PHI (days)	REI (hrs)	Notes ³
9 + 12	Switch 62.5WG ⁵ (cyprodinil + fludioxonil)	E ⁶	G	G	4 @ 14 oz/ac or 5 @ 11 oz/ac (max. 56 oz per ac per yr)	0	12	Label: Switch 62.5WG and Section 2(ee) Recommendations for Neopestalotiopsis “After 2 applications of Switch 62.5WG, alternate with another fungicide with a different mode of action for 2 applications.” Use 14 oz/ac rate for Neopestalotiopsis.
19	Ph-D ^{4,7} (polyoxin D zinc salts)	G	F	--	6 @ 6.2 oz/ac	0	4	Label: Ph-D “Use in alternation with fungicides that have different modes of action.”
19	OSO 5%SC ^{4,7} (polyoxin D zinc salts)	G	F	--	6 @ 13.0 fl oz/ac or 12 @ 6.5 fl oz/ac (max. 78 fl oz /ac/season)	0	4	Label: OSO 5%SC “A rate of 6.5 fl. oz./acre may be used for preventative applications before onset of visible disease, in periods of low disease pressure, or in a tank mix with other fungicides for resistance management. Otherwise, use a rate of 13.0 fl. oz./acre”

¹To reduce the chance that fungi will develop resistance to fungicides, try to avoid using more than one product with the same target site (same FRAC group). Fungi are generally less likely to develop resistance to active ingredients in FRAC groups that start with “M,” as these have activity at multiple sites.

²E = excellent, G = good, F = fair, P = poor, -- = no control or not determined

³See product labels for additional information and to make sure that instructions have not changed. Label instructions must be followed anytime a fungicide or other pesticide application is made.

⁴Because Kenja and Ph-D/OSO 5%SC are single mode of action products, it is suggested to tank mix these with either captan or thiram to minimize the risk of resistance development. Do not exceed the allowed applications of captan and thiram.

⁵Miravis Prime and Switch both contain fludioxonil, and Miravis Prime has a FRAC 7 ingredient like Kenja does. An application of Miravis Prime or Switch will reduce the allowed number of applications of the other. While Switch and Miravis Prime both have a “G” for Neopestalotiopsis and “E” for Botrytis, Switch is considered slightly better for Neopestalotiopsis, while Miravis Prime is slightly better for Botrytis. So, if Neopestalotiopsis is a problem on your farm, it is probably best to use the maximum allowed number of applications of Switch instead of using Miravis Prime. Miravis Prime and Kenja both contain FRAC group 7 ingredients. This must also be kept in mind when complying with rotation requirements. See notes column in table and product labels for details.

⁶Resistance to the active ingredients in Switch has been found in some *Botrytis* isolates. Be careful not to use it more than allowed by the label, as this is not only illegal but may contribute to the development of more fungicide resistance.

⁷Ph-D and OSO 5%SC have the same active ingredient, so an application of one would reduce the maximum number of applications of the other. OSO 5%SC has been listed by the Organic Materials Review Institute (OMRI). Check with your organic certifier to ensure acceptability of a particular product.