

Resistance management recommendations and proposals for Fungicides not included in current working groups as requested by manufacturers

Compound	Quinoxyfen , Proquinazid
Chemistry	Azanaphthalenes
FRAC MoA Code	13
TARGET SITE AND CODE	E1 - Signal transduction (mechanism unknown)
Uses	Powdery mildew control in wheat, barley, grapevines, stone fruit, cucurbits, peppers, hops, strawberries
Resistance status	<ul style="list-style-type: none"> • Resistance known to these molecules in <i>Blumeria graminis</i> and <i>Erysiphe necator</i>. • Medium risk. • Resistance management required. • Clear cross resistance seen between the 2 actives in <i>Erysiphe necator</i>; weaker cross-resistance observed in <i>Blumeria graminis</i>. • Active resistance monitoring program for <i>Erysiphe necator</i> and <i>Blumeria graminis</i>
Recommendations	<p>Recommendations for cereals</p> <ul style="list-style-type: none"> • Apply Group 13 fungicides preventatively. • Apply a maximum of 2 Group 13 fungicides containing sprays per crop solo or in mixture (co-formulations or tank mixes) with effective mixture partners from different cross-resistance groups. • If a second application is needed, it should be in tank-mix with an effective powdery mildewicide with another mode of action. • Always follow product specific label recommendations for resistance management. <p>Recommendations for grapes</p> <ul style="list-style-type: none"> • Apply Group 13 fungicides preventatively. • Group 13 fungicides must be applied in spray programs with fungicides of a different mode of action. • Apply a maximum of 3 Group 13 fungicide containing sprays per season, solo or in mixture

	<p>(co-formulations or tank mixes) with effective mixture partners from different cross-resistance groups.</p> <ul style="list-style-type: none"> Do not exceed 2 consecutive applications of Group 13 fungicides per season. <p>Recommendations for cucurbits, fruiting vegetables and strawberries</p> <ul style="list-style-type: none"> Apply Group 13 fungicides preventatively. Group 13 fungicides must be applied in spray programs with fungicides of a different mode of action. The number of sprays of group 13 fungicides per crop should not exceed 50% of the total number of powdery mildew sprays per season, solo or in mixture (co-formulations or tank mixes) with effective mixture partners from different cross-resistance groups. <p>Do not exceed 2 consecutive applications of Group 13 fungicides per season</p> <p>Always follow product specific label recommendations for resistance management</p>
Requested by / date	Revised 30th March 2020
FRAC SC approval / date	