

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

Compound	Cyazofamid, Amisulbrom
GROUP NAME	Qil fungicides (Quinone inside Inhibitors)
FRAC MoA Code	21
TAREGT SITE AND CODE	C4 - Quinone 'inside' (Qi) binding site of the cytochrome bc1 (ubiquinone reductase)
Uses	Oomycete diseases control in potatoes, grapevines, fruiting vegetables, leafy vegetables etc.
Resistance Status	<ul style="list-style-type: none"> • Medium to high risk. • Specific resistance have been detected in <i>Plasmopara viticola</i> in France. • No specific resistance identified in <i>Phytophthora infestans</i>. • Resistance management required. • Active resistance monitoring program for <i>Plasmopara viticola</i> and <i>Phytophthora infestans</i>.
Resistance Mechanism	<ul style="list-style-type: none"> • Specific resistance in <i>Plasmopara viticola</i> which harbors the insertion of E203-DE-V204 and substitution of L201S in cytochrome b.
Recommendations	<p>Recommendations for grapevines</p> <ul style="list-style-type: none"> • Always apply Qil fungicides in mixture with effective partners such as multi-site or other non-cross resistant fungicides in high risk countries. • Apply Qil fungicides preferably in a preventive manner. • Apply a maximum of 50 % of the total number of intended applications for disease control not exceeding a total of 4 Qil fungicides sprays during one crop cycle. In areas of high resistance the total number should not exceed a maximum of 3 applications during one crop cycle. • Alternation with fungicides having other modes of action is recommended in spray programs. • Apply Qil fungicides according to manufacturers' instructions <p>Recommendations for potatos</p> <ul style="list-style-type: none"> • Apply Qil fungicides preferably in a preventive manner.

	<ul style="list-style-type: none"> • Apply a maximum of 50 % of the total number of intended applications for late blight control during one crop cycle. • Alternation with fungicides having other modes of action is recommended in spray programs. • Apply Qil fungicides according to manufacturers' instructions.
Requested by / date	Ishihara Sangyo Kaisha LTD and Nissan Chemical Corporation, January 2021
FRAC SC approval / date	February 12 th 2021