

**LYS VAN FRAC KODES VIR SWAMDODERS MET IP KODERING VIR WYNDRUIWE**  
(FRAC = Fungicides Resistance Action Committee)

**Hoe om hierdie lys te gebruik vir weerstandsbestuur**

Wissel swamdoders met verskillende FRAC Kodes (d.w.s. in verskillende kleurgroepe) in jou spuitprogram af om die kans vir die ontwikkeling van weerstand deur swamme te verminder. Die gebruik van swamdoders met dieselfde FRAC kodes na mekaar in 'n spuitprogram sal die ontwikkeling van weerstand stimuleer. Byvoorbeeld: azoxystrobin (Quadris) kan nie met kresoxim-methyl (Stroby) in 'n spuitprogram afgewissel word nie, want hulle het albei 'n FRAC kode van 11.

Sommige swamdoders met 'n risiko van weerstand word vooraf reeds met kontakdoders soos mankoseb gemeng as deel van 'n weerstandsbestuurstrategie.

Vra asseblief u konsultant/adviseur of die verspreider van die swamdoders om te help met 'n strategie vir weerstandbestuur wanneer u u spuitprogram opstel.

FRAC CODE	CHEMICAL GROUP	ACTIVE INGREDIENT	COMMENTS
1	Benzimidazoles	benomyl	High risk for resistance – positive cross resistance between group members.
		cardendazim	
2	Dicarboximides	iprodione	Medium to high risk – cross resistance common between group members. Resistance common in Botrytis.
		procymidone	
		vinclozolin	
3	Pyridines	pyrifenox	Medium risk – generally wise to accept cross resistance between fungicides active against the same fungus.
	Pyrimidines	fenarimol	
	Triazoles	flusilazole	
		hexaconazole	
		myclobutanil	
	penconazole		

		tebuconazole	
		tetraconazole	
		triadimenol	
4	Acylalanines	benalaxyl	High risk. Resistance and cross resistance well known in various Oomycetes.
		metalaxyl	
		metalaxyl-M	
5	Spiroketalamines	spiroxamine	Low to medium risk.
7	Pyridine carboxamides	boscalid	Medium risk.
9	Anilino-pyrimidines	cyprodinil	Medium risk – resistance known in Botrytis.
		pyrimethanil	
11	Quinone outside Inhibitors (QoI- fungicides)	azoxystrobin	High risk – cross resistance shown between all members of the QoI group.
		pyraclostrobin	
		Kresoxim-methyl trifloxystrobin	
		famoxadone	
		fenamidone	
12	Phenylpyrroles	fludioxonil	Low to medium risk – resistance management required.
13	Quinolines	quinoxifen	Medium risk – resistance management required.
17	Hydroxyanilides	fenhexamid	Low to medium risk – resistance management required.

22	Toluamides	zoxamide	Low to medium risk – resistance management required.
27	Cyanoacetamide-oximes	cymoxanil	Low to medium risk – resistance management required.
29	Dinitrophenyl crotonates	dinocap	Resistance not known.
33	Phosphonates	fosetyl-AI	Low risk.
		phosphorous acid & salts	
40	Carboxylic Acid Amides (CAA-fungicides)	dimetomorph	Low to medium risk. Resistance known in <i>Plasmopara viticola</i> . Cross resistance between all CAA group members.
		lprovalicarb	
M Multi-site contact activity	M1 inorganic	copper	Generally considered low risk group – no signs of resistance developing, no cross resistance between group members M1 to M3.
	M2 inorganic	sulphur	
	M3 dithiocarbamates	mancozeb	
		maneb	
		metiram	
		propineb	
		thiram	
M4 phthalimides	folpet		