Anilinopyrimidines Working Group

FRAC FUNGICIDE RESISTANCE ACTION COMMITTEE

Hélène Lachaise (Chairwoman)	Bayer CropScience
Lino Miguel Dias	Bayer CropScience
Randall Gold	BASF
Gerd Stammler	BASF
Masaru Shibata	KI Chemical
Makiishi Takagaki	KI Chemical
Satoshi Usami	KI Chemical
Duncan McKenzie	Syngenta
Helge Sierotzki	Syngenta

Introduction

The anilinopyrimidines (APs), FRAC group 9, are highly active fungicides against a broad range of fungi. Commercialised APs include cyprodinil, pyrimethanil and mepanipyrim. The mode of action includes inhibition of methionine biosynthesis and secretion of hydrolytic enzymes. APs are cross-resistant, but show no cross-resistance with other fungicide groups.

The FRAC-AP group discusses the sensitivity situation and use guidelines for control of *Botrytis* and *Venturia.*

The use of APs for control of Black Sigatoka is included in the FRAC Banana Working Group

Monitoring Results and Use Recommendations

Update following the FRAC-AP meeting held on December 1st, 2009. The current sensitivity status of *Botrytis* on vines and strawberries and of *Venturia* on apple was discussed.

Botrytis:

Vineyards:

Sensitivity monitoring was carried out in Austria, France, Spain, Portugal, and Germany in commercial vineyards. Available data to date (2009), show that the frequency of resistant isolates continues to remain low.

Products, applied according to the FRAC-AP guidelines in grape spray programmes, maintained very good performance in the field.

Strawberries:

Sensitivity monitoring was carried out in Austria, Germany, Poland, UK and Spain from commercial locations. Data from 2009 show that the frequency of resistant isolates is variable, fluctuating from field to field, ranging from zero to high.

Products, applied according to the FRAC-AP guidelines in strawberry spray programmes, provided good control in most commercial situations.

Evidence from field and laboratory trials has shown that there is a medium resistance risk of *Botrytis* to APs. The fact that resistant isolates can be found in commercial sites, albeit at low levels, reinforces the importance of strict adherence to the FRAC-AP guidelines to control *Botrytis.*

Venturia:

Monitoring carried out in Europe during 2009 did not show any further spread and increase in frequency of resistance detected compared to 2008.

Evidence from previous field and laboratory trials has shown that there is a medium resistance risk of *Venturia* to APs. The fact that resistant isolates can be found in commercial orchards reinforces the importance of strict adherence to the FRAC-AP guidelines to control *Venturia.*

In 2009, AP-containing spray programmes continued to show good performance in commercial orchards.

General Guidelines

The guidelines for the use of AP fungicides against *Botrytis* grey mould were not changed on account of the stable situation recorded in the monitoring studies.

The *Venturia* guidelines have not been changed.

Use Guidelines for AP-Containing Products

The purpose of the use guidelines for AP containing products is to maintain the sensitivity in the target pathogens and to prevent crop losses due to resistant pathogen populations.

Where different AP-containing products are used in one season, the cumulative number of applications with cyprodinil-, pyrimethanil- or mepanipyrim-containing products must not exceed the maxima as mentioned below.

The guidelines were reviewed during the meeting on December 1st, 2009.

Botrytis Guidelines

Where two treatments are made per season, the number of applications of AP-containing products is limited to one.

In situations where up to six *Botrytis* treatments are made per crop and season, a maximum of two applications with AP-containing products are recommended.

In specific situations where seven or more *Botrytis* treatments are required per crop and season, a maximum of three applications with AP-containing products is recommended.

For specific crops and products, follow use recommendations of individual companies.

Venturia Guidelines

Apply a maximum of four AP-containing products per season.

In locations where resistance has been reported, use APs only in mixture with an effective scab fungicide.

Individual products should always be used at recommended dose rates and during the period when they are most effective.

Curative use only in conjunction with reliable scab warning systems.

Communication plan

Recommended methods for AP fungicide sensitivity testing are available on the FRAC web site. The next AP FRAC WG meeting is scheduled for November 30th 2010.

Monitoring Methods

For appropriate monitoring methods please visit the FRAC webpage, Monitoring Methods

Contact

For further information on the Anilinopyrimidines Working Group contact:

Mrs. H. Lachaise,
Chairwoman,
FRAC-AP Working Group,
Bayer CropScience,
14-20, rue Pierre Baizet,
69263, Lyon, France,
Tel N°: 00 33 4 72 85 22 45,
Fax N°: 00 33 4 72 85 24 00

Source: www.frac.info
Approved: December 2009