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## 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.

[http://www.frac.info/wg\\_bananas/bananas\\_wg.html](http://www.frac.info/wg_bananas/bananas_wg.html)

## **Update following the FRAC-AP meeting held on December 2nd, 2008:**

The current sensitivity status of *Botrytis* in vines and strawberries as well as the status of *Venturia* in apple was discussed.

### *Botrytis:*

#### Vineyards:

Sensitivity monitoring was carried out in Austria, France, Spain, Portugal, Italy, Germany and Australia in commercial vineyards. Available data to date (2008), from France, Germany, Spain, Italy, Portugal and Australia show that the frequency of resistant isolates continues to remain low. No resistant isolates were detected in Portugal.

Products, applied according to the FRAC-AP guidelines for grapes, maintained very good performance in the field.

#### Strawberries:

Sensitivity monitoring was carried out in Austria, Belgium, Germany, UK and Spain from commercial locations. Data from 2008 show that the frequency of resistant isolates is variable, fluctuating from field to field, zero to high.

Products, applied according to the FRAC-AP guidelines for strawberries, provided very 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:*

Sensitivity monitoring studies in Europe from 2008 are still in progress and will be updated by the end of January 2009.

Monitoring studies carried out in South Africa showed no resistance in field populations.

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 2008, 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.

### **Guidelines for the use of 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 mepanipyrin-containing products must not exceed the maxima as mentioned below.

The guidelines were reviewed during the meeting on December 2nd, 2008.

### ***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 is only recommended in conjunction with reliable scab warning systems.

### Communication plan

- ☞ Recommended methods for AP fungicide sensitivity testing are available on the FRAC web site.

### Contact

For further information on the Anilinopyrimidines Working Group contact:

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