

Anilinopyrimidines  
Working Group

**FRAC**  
FUNGICIDE RESISTANCE  
ACTION COMMITTEE

## Anilinopyrimidines (AP's) Working Group

Meeting on December 10, 2013, 8:30 am - 12:00 am  
Protocol of the discussions and use recommendations of the AP's Working  
Group of the Fungicide Resistance Action Committee (FRAC)

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### Participants

BASF	Martin Teichmann (as deputy for Randall Gold) Gerd Stammler
Bayer CropScience	<u>Andreas Mehl</u> Charles Bergmann
KI Chemical	Isao Kaneko Takumi Katsumata
Syngenta	Duncan McKenzie Gabriel Scalliet

### Venue:

Lindner Main Plaza Hotel, Frankfurt, Germany

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**ANTI-TRUST GUIDELINES (FROM FRAC CONSTITUTION) WERE SHOWN  
BEFORE THE MEETING STARTED**

## 1. Monitoring Results 2013 (FRAC members)

### 1.1 *Botrytis* results

#### Vineyards

Extensive monitoring studies have been carried out for more than a decade by Bayer CropScience, KI Chemical, Syngenta, and BASF. Data from these studies show that the frequency of resistant strains continues to remain low in Europe.

In 2013, sensitivity data were presented for Austria, France, Germany, Croatia, Italy, Portugal, Greece, and Spain in commercial vineyards and confirmed the previous findings of low resistance frequencies in Europe.

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

#### Strawberries (Syngenta)

Sensitivity monitoring was carried out during 2013 in Germany, Poland, Belgium, Greece, and Spain from commercial locations.

Data show that the frequency of resistant isolates is moderate, fluctuating from field to field, ranging from zero to high. Compared to 2012, the frequency of resistant isolates in the monitored populations remained stable.

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

#### Vegetables (Syngenta)

Initial sensitivity monitoring in tomato, lettuce, beans and peas was carried out during 2013 in Netherlands, Belgium, France, and Spain from commercial locations.

Overall, data show a low frequency of resistant isolates.

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*.

## **1.2. *Venturia* results**

(BASF, Syngenta)

Monitoring studies for 2012 and 2013 were presented. Samples from Belgium, France, Germany, Italy, Netherlands, Poland, Spain, and UK were analyzed.

Overall, in 2013 a heterogeneous distribution of resistant populations was detected in most apple growing areas as observed in previous years. Within individual apple growing regions, sensitive sites could be detected next to less sensitive sites.

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## **2. Use Recommendations**

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.

### **2.1 General AP's Guidelines (all crops)**

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 use recommendations were reviewed during the meeting on December 10<sup>th</sup>, 2013.

The guidelines for the use of AP fungicides against *Botrytis* grey mould were slightly adapted for specific situations where up to three treatments are applied per crop and season. No further changes in the guideline were made in 2013.

The *Venturia* guidelines have not been changed.

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### **2.2 *Botrytis* Guidelines**

- Where up to three treatments are made per season, the number of applications of AP-containing products is limited to one.
- In situations where four 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 and not more than two consecutive applications.

- For specific crops and products, follow use recommendations of individual companies.
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### **2.3 *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 non cross resistant 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.
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The next AP FRAC Working Group meeting is scheduled for December, the 02<sup>nd</sup>, 2014.