

## **BLUE MOULD WARNING SERVICE GENERAL REPORT FOR 2001**

by François JACOB  
Secretary General, CORESTA

### **Introduction:**

The Blue Mould Warning Service of CORESTA has been active since 1963, and is coordinated by the General Secretariat in Paris. It covers the following zones and countries, although a contact has not necessarily been established with every single country listed in the table hereunder.

### **Zones and countries**

*North Africa:* Algeria, Morocco, Tunisia

*Middle-East:* Iran, Lebanon, Syria, Turkey

*South East Europe:* Albania, Bulgaria, Croatia, Cyprus, Greece, Macedonia, Romania, Serbia

*South West Europe:* France, Italy, Portugal, Spain

*Northern & Central Europe:* Austria, Belgium, Germany, Hungary, Poland, Slovakia, Switzerland

Thirty-six organisations from twenty-four countries participated in 2001 in the Blue Mould Warning Service (same figures as for 2000).

Eighteen warnings (against ten in 2000), signalling thirty areas of infestation in the investigated zone, were despatched by the General Secretariat to the participating Organisations, and also, for the first year, displayed on the CORESTA web-site.

### **General Outlook**

Overall there was little damage from blue mould in 2001, but the time spread of the outbreaks was unusual, with apparently no activity from mid-May to early July, and many outbreaks in July and early August. Climatic conditions in Europe were also unusual, with a very wet spring and early summer.

The disease has shown up sporadically in most countries and only careful preventive treatments can ensure a proper control of the situation. No metalaxyl-resistant strains have been found in any of the countries surveyed up to now.

The following table gives a summary of the warnings despatched in 2001.

**Blue Mould Warning Service - Warnings despatched in 2001**

| <b>Warning N°</b> | <b>Date of Outbreak</b> | <b>Seedbed (S)<br/>Field (F)</b> | <b>Country</b> | <b>Region</b>  | <b>Observations</b>   |
|-------------------|-------------------------|----------------------------------|----------------|--|---|
| 1                 | 22 Feb.                 | S                                | Morocco        | Ouezzane   | Var. dark B47 - stage 4 leaves  |
| 2                 | 29 March                | S                                | Tunisia        | Tebouldou (Gabès)  | Snuff tobacco – Treated with Ridomil MZ58   |
| 3                 | 3 April                 | F                                | Syria          | Coastal area Baniyas                                       | Var. Check Elbent Balady  |
| 4                 | 18 April                | S                                | Iran           | Northern Iran (Mazandaran)<br>Northwestern Iran (Celestan) | Coker 347 seedbeds, severe outbreaks with strong sporulation<br>Coker 347 and Burley 21 seedbeds at transplanting stage, severe outbreaks with strong sporulation treated with Ridomil MZ |
| 5                 | 14 May                  | F                                | Tunisia        | North-East (Kelibia) and North (Tabarka)                   | Lower leaves of dark air-cured tobacco at early stage in the field. Climatic conditions very conducive to the disease. Treated with Ridomil MZ58  |
| 6                 | 3 May                   | S                                | Morocco        | Marrakech  | Seedbeds of dark tobacco var. B47, stage 5-6 leaves.  |
| 7                 | 6-10 July               | F                                | Poland         | 5 sites in the Krakow and Lezajsk areas (South)            | Varieties Wislica FCV and Burley TN90. 2 to 10 leaves affected by plant, with 2-8 lesions per leaf. Treated with Ridomil - removal of bottom leaves.                                      |
| 8                 | 11 July,                | F                                | Switzld.       | Fribourg   | First outbreak on FCV var. Golta. Treated with Ridomil – infected plants destroyed.   |
| 9                 | 11 July                 | F                                | Germany        | Forchheim  | Two limited outbreaks on FCV varieties Golta and HYV7, that had received proper preventive treatments in the seedbed and field.   |
| 10                | 12-16 July              | F                                | Switzld.       | Aargau, Vaux, Fribourg                                     | Outbreaks on var. Burley 92 and Burley 93. Main outbreak 20 m diameter destroyed.   |
| 11                | 16 July                 | F                                | Poland         | Lezajsk (South)  | Outbreak on FCV var. DH-17. Treated with Ridomil.   |
| 12                | 15 July                 | F                                | Italy          | Umbria   | Outbreak on FCV var. ITB 609. Treated with Ridomil Gold.  |
| 13                | 27 June                 | F                                | Belgium        | Wervik & Beselare  | Dark air-cured var. Filippijn – One month after planting. Four fields affected. All seedlings from same greenhouse. Lower leaves affected and removed. Treatment with metalaxyl+mancozeb. |

**Blue Mould Warning Service - Warnings despatched in 2001 ( Continued)**

| <b>Warning N°</b> | <b>Date of Outbreak</b> | <b>Seedbed (S)<br/>Field (F)</b> | <b>Country</b> | <b>Region</b>        | <b>Observations</b>   |
|-------------------|-------------------------|----------------------------------|----------------|----------------------|---|
| 13<br>(cont'd)    | 13 July                 | F                                | Germany        | Baden-Württemberg    | Light outbreaks on Burley and FCV, treated with Ridomil TK  |
| 14                | 18 July                 | F                                | Belgium        | -                    | Severe infestation on CORESTA trap assortment, var. Bergerac C, Bel 61-10, Samsoun, NC 11-51 and ITB 261.   |
|                   | 16 July                 | F                                | France         | Dordogne             | Systemic outbreak on Burley BB16C at flowering stage, on all stalk positions. Affected area destroyed. Preventive treatment suspected insufficient. |
| 15                | 16-24 July              | F                                | Poland         | Zamosc               | Burley TN90 Lublin district (eastern Poland) – bottom leaves affected and removed. Ridomil Gold applied.  |
|                   | 26 July                 | F                                | Poland         | Dziewiecioly         | Dark air-cured var. Millennium bud stage. 4-5 leaves infected by plant, removed before harvest.   |
|                   | 26 July                 | F                                | France         | Alsace               | FCV Golta flowering stage. 3 ha affected, but no destruction.<br>Dark ITB1000 and Burley BB16B flowering stage, 3 ha affected, but no destruction.  |
| 16                | 27 July                 | F                                | Poland         | Lublin (east)        | FCV Wislica. Light outbreak. Bottom leaves removed to improve ventilation.  |
| 17                | 31 July                 | F                                | France         | South-West           | FCV ITB 30 Severe outbreak after thunderstorm. Affected plants destroyed. Follow-up treatment with maneb and Acylon.                                |
|                   | 31 July                 | F                                | France         | West                 | FCV ITB 33024 topping stage. 5 ha affected with some sporulation. 2 ha destroyed. Abundant rains and stagnant waters.                               |
| 18                | 31 July                 | F                                | Hungary        | Poespetri            | Var TN 86 Light outbreak on small surface treated with Ridomil Gold 68-WP.  |
|                   | 1 August                | F                                | Germany        | Schleswig-Holstein   | FCV Golta – Severe outbreak – infected plants destroyed. Treatment with Ridomil TK.   |
|                   | 1 August                | F                                | France         | Aveyron (South-west) | FCV ITB 31612 flowering stage. Very humid conditions. No destruction needed.  |

## SITUATION PER GEOGRAPHICAL ZONE

### NORTH AFRICA

#### Morocco

Two outbreaks were recorded on seedbeds, on 22 February at Ouezzane and on 3 May at Haouz (Marrakech). Seedbed loss was negligible, as was the case in 2000. Climatic conditions were not conducive to blue mould in 2001, and preventive measures had been taken under the supervision of the Régie des Tabacs.

Chemicals used for blue mould control are contact fungicides (Maneb, Mancozeb), and systemic fungicides (Cymoxanil, Metalaxyl, Oxadixyl).

#### Tunisia

The planted surface areas are 3400 ha of a local dark smoking variety (BC 8/4-7/2), with an additional 155 ha of Burley, 9 ha of Virginia and 12 ha of Oriental. Moreover, 160 ha of *N. Rustica* are grown for snuff. This amounts to a total of 3736 ha of tobacco.

The first outbreak of the season occurred on 29 March, in the area of Gabès, on seedbeds of Rustica, and, in total, blue mould affected less than 1% of the BC 8/4-7/2 and Rustica planted areas, with no significant loss.

Preventive treatments with Ridomil MZ 58 are applied from the stage 4 leaves, with one application every 10 days at the dose of 1.5-2 g/l.

No metalaxyl-resistant strains were identified.

### MIDDLE-EAST

#### Iran

Iran grows 17350 ha of tobacco, including 6500 ha of Basma 178-2, 7000 ha of Virginia, 3500 ha of Burley 21 and 350 ha of other types.

Blue mould first appeared on 18 April on seedbeds of Coker 347 and Burley 21 in northern Iran. The weather later in the season was conducive to the disease and some severe outbreaks occurred in the southern part of the country.

Chemicals used for preventive and curative treatments are Ridomil MZ 72 WP and Mancozeb.

#### Syria

Syria grows approx. 17165 ha of tobacco, including 3221 ha of Burley, 1595 ha of Virginia, 5743 ha of Oriental, 4421 ha of Balady and 2185 ha of Tombac and other types.

The climatic conditions in 2001 were conducive to blue mould, but, due to strict prevention measures, the disease was kept under control. The first outbreak occurred on April 3<sup>rd</sup> on var. Balady in the coastal area of Baniyas. Less than 4% of the planted areas were affected by blue mould, mostly on Tombac and Balady varieties in the coastal area.

Preventive treatments are made using Mancozeb, while Ridomil MZ and Ripost M Pepite are used for curative treatments.

No metalaxyl-resistant strains were identified.

## **SOUTH EAST EUROPE**

### **Bulgaria**

Frequent rainfall and high temperatures were conducive to blue mould in Bulgaria in 2001. The first outbreak observed was on 20 May, on flue-cured seedlings ready for transplantation near Plovdiv. Some outbreaks occurred until the end of June on all varieties (Virginia, Burley, Oriental) affecting 8-10% of the planted area.

Fungicide treatments with metalaxyl-based formulations were applied successfully.

No metalaxyl-resistant strain was observed.

### **Cyprus**

No occurrence of blue mould was observed on seedbeds or fields.

## **SOUTH WESTERN EUROPE**

### **France**

France grows 8752 ha of tobacco, including 3849 ha of Virginia, 3260 ha of Burley and 1643 ha of dark air-cured. Blue mould affected 0.31%, 0.22% and 0.18% respectively of the areas planted in those three types of tobacco, with estimated losses of 15, 7 and 1 tons respectively.

The outbreaks took place in three main growing regions: the south-west, east (Alsace) and west (lower Loire valley).

The first outbreaks were recorded during the second week of July in two (distant) regions, the south-west and east.

Preventive treatments with fungicides are applied on seedbeds and fields. Resistant varieties are preferred whenever possible, and Acylon Tabac (metalaxyl) is used for curative treatments. A total of 9.9 hectares of tobacco were destroyed due to blue mould.

No metalaxyl-resistant strain has been found in France up to now.

### **Italy**

Italy grows approx 46100 ha of tobacco of various types. Flue-cured represents 19000 ha, Burley (and a small production of Maryland) 11500 ha, Fire-cured 3000 ha, Sun-cured (Oriental) 4600 ha and dark air-cured 8000 ha.

Low temperature and high humidity in the early season were conducive to the disease. A few outbreaks were observed in April on seedbeds in Campania (south), then in May and June on the field. A large proportion (above 25%) of the crop was affected to some degree in Campania, with losses estimated at 5 kg/ha. No significant loss was suffered in other regions of Italy.

Two to three preventive applications of fungicides are practiced on seedbeds, and four to six on the field. Chemicals used are Metalaxyl M alone or mixed with Mancozeb, Fosetyl al + mancozeb + cymoxanil, and oxadixyl+mancozeb.

No resistance to metalaxyl was reported.

## **Spain**

Spain grows 17,412 ha of tobacco, including 12,000 ha of Virginia, 2,900 ha of Burley, 2,300 ha of fermented Burley, 200 ha of Havana and 12 ha of Kentucky.

The first outbreaks were observed on 20 April on Virginia seedbeds and on 10 July in the field. Virginia and Burley varieties were affected. The outbreak on seedbeds was systemic. 2000 m<sup>2</sup> of seedbeds and 100 ha of fields were affected. The areas concerned are located in the Caceres Province, near Talayuela, Rosalejo, Coria and Barquilla.

Chemical control was used for prevention and cure (metalaxyl).

No losses were incurred.

No resistance to metalaxyl was reported.

## **CENTRAL AND NORTHERN EUROPE**

### **Austria**

Austria grows 110 ha of tobacco, (90% Burley, 10% dark air-cured).

Two blue mould outbreaks were reported at the end of July, in the very eastern part of the country, in both cases with a moderate infestation, the total area concerned being under 1 ha, and the loss 15% of the affected surface. In both cases the preventive fungicide application had not been made.

The Growers Association maintains a control on seedbeds, planting materials and fields. A warning service informs growers of blue mould appearance in Austria ([www.bfl.at](http://www.bfl.at)).

Preventive applications of Ridomil MZ 72 WP (0.25%) are made, the same chemical being used as a curative treatment.

### **Belgium**

Belgium grows a total of 377 ha of tobacco, mainly 336 ha of dark air-cured Fillipijn, 16 ha of other dark air-cured varieties and 25 ha of Burley.

Blue mould outbreaks were reported by 12 farmers. Five outbreaks were severe with heavy losses. The area affected by the disease was estimated to be 5.55 ha (5.50 ha of dark air-cured and 0.05 ha of Burley).

The loss was approx. 8500 kg of dark air-cured.

Mancozeb and maneb are used for preventive treatments, whereas metalaxyl is not registered and can only be used in case of an emergency. This year's first infection started late June in four fields whose plants came from the same greenhouse, where no preventive treatments had taken place.

### **Germany**

Germany grows 4,621 ha of tobacco including 2,318 ha of Virginia, 936 ha of Burley and 1,367 ha of dark air-cured. The largest producing area is the south-western part of the country.

In 2001, Blue mould outbreaks occurred earlier than usual (early July). The following areas were affected:

Cooperative Baden-Württemberg : 20 ha of Burley tobacco (var. Jupiter) near Heidelberg; in southern Hesse one ha of FCV ITB 3305 was destroyed.

Cooperative South-West : One light outbreak only, in Rheinland-Pfalz on FCV ITB 3305 in July.

Cooperative North-East : Light outbreak on FCV Golta.

In Schleswig-Holstein, 3.5 ha had to be destroyed, after a late outbreak in August.

All tobaccos are treated with Ridomil TK in seedbeds and on the field.

No resistance to metalaxyl has been found in Germany until now. Some problems encountered in 2001 were probably due to the combination of 1) a high infection pressure early in the season; 2) climatic conditions conducive to blue mould; 3) insufficient first application of fungicide on the field (around 20 June).

## **Hungary**

Hungary grows approx. 5500 ha of tobacco. In 2001 a single infection was observed on 31 July in the north-east of the country, affecting 0.3 ha and resulting in a loss of 0.3 ton.

Growers are advised to take preventive measures. Chemicals used are Ridomil Gold 68WP, Galben M, Alliette 80WP, Dithane M45 and Zineb.

## **Poland**

Poland grows 13633 ha of tobacco, including 7794 ha of Burley, 5344 ha of FCV and 495 ha of dark air-cured. The total tobacco production is estimated to be approx. 28000 tons.

Blue mould occurred sporadically on Virginia (var. Wislica), Burley TN90 and dark air-cured plantations in southern (Krakow, Lezask) and south-eastern (Zamosc) regions of Poland during the whole month of July. In August, the weather conditions were unfavourable to the disease and prevented its extension.

Area affected by blue mould was approx. 33 ha, and the resulting loss 48 tons.

Seedbeds are treated with mancozeb, fields with a combination of mancozeb and either metalaxyl (Ridomil MZ) or dimetomorph (Acrobat MZ).

## **Switzerland**

Switzerland grows 650 ha of tobacco, including 90% of Burley and 10% of Virginia.

In 2001, the first outbreak was observed on 11 July, and approx. 50 ha Burley and 7 ha Virginia were affected by blue mould, in the Broye plain (Vaud and Fribourg cantons) and Aargau, but losses were insignificant as no plot was destroyed.

Growers must strictly abide by preventive dispositions and declare any outbreak of blue mould. Seedbeds are treated with Zineb twice a week. Systemic fungicides are forbidden on seedbeds. Fields are treated every other week with Maneb. No treatment is allowed less than one week before harvest.

When an outbreak is discovered, it must be declared to the cantonal phytosanitary service. Infected plots are destroyed and neighbouring zones treated with systemic fungicides (phenylamids, Mancozeb).

Sanitation precautions include destroying seedbeds after transplanting, early harvesting of lower leaves, and burrowing of plants after harvest.



## **BLUE MOULD WARNING SERVICE GENERAL REPORT FOR 2002**

by François JACOB  
Secretary General, CORESTA

### **Introduction:**

The Blue Mould Warning Service of CORESTA has been active since 1963, and is coordinated by the General Secretariat in Paris. It covers the following zones and countries, although a contact has not necessarily been established with every single country listed in the table hereunder.

### **Zones and countries**

*North Africa:* Algeria, Morocco, Tunisia

*Middle-East:* Iran, Lebanon, Syria, Turkey

*South East Europe:* Albania, Bulgaria, Croatia, Cyprus, Greece, Macedonia, Romania, Serbia

*South West Europe:* France, Italy, Portugal, Spain

*Northern & Central Europe:* Austria, Belgium, Germany, Hungary, Poland, Slovakia, Switzerland

Thirty-six organisations from twenty-four countries participated in 2002 in the Blue Mould Warning Service (same figures as for 2001).

Seventeen warnings (against eighteen in 2001), signalling 25 areas of infestation in the investigated zone, were despatched by the General Secretariat to the participating Organisations, and also displayed on the CORESTA web-site.

### **General Outlook**

Climatic conditions in Europe were unusual in 2002, with a very wet summer in central and western Europe. Germany suffered heavy losses, and studies are being made on whether some of the strains found are resistant to metalaxyl. The eastern part of France (Alsace) also suffered losses well above those of previous years.

The rest of the area covered did not suffer significant losses.

The following table gives a summary of the warnings despatched in 2002.

There may be legitimate concern for future years, and more than ever preventative measures must be applied with care throughout the Euro-mediterranean area.



**Blue Mould Warning Service - Warnings despatched in 2002**

| <b>Warning N°</b> | <b>Date of Outbreak</b> | <b>Seedbed (S)<br/>Field (F)</b> | <b>Country/Region</b>  | <b>Observations</b>   |
|-------------------|-------------------------|----------------------------------|--|---|
| 1                 | 4 April                 | S                                | <b>Iran</b><br>Mazandaran<br>Northern Iran                     | Var. Basma 178-2 - High sporulation, treated with Ridomil MZ  |
| 2                 | 25 March                | S                                | <b>Morocco</b><br>Ouezzane                                     | Dark tobacco B 47 – stage 4-5 leaves  |
| 3                 | 11 April                | S                                | <b>Iran</b><br>Golestan<br>Northern Iran                       | Var. Coker 347 - High sporulation, treated with Ridomil MZ  |
| 4                 | 18 May                  | F                                | <b>Tunisia</b><br>Northern provinces                           | Light localised outbreaks on early planted dark air-cured tobacco, 5-6 leaves stage. Treated w/ Ridomil MZ58.   |
| 5                 | 14 May                  | S                                | <b>Morocco</b><br>Marrakech                                    | Dark tobacco B 47 – stage 5-6 leaves  |
| 6                 | May-June                | F                                | <b>Germany</b><br>Forchheim                                    | Outbreaks on fields at Forchheim and subsequently at growers sites. Infected plants destroyed and fields treated w/ Ridomil TK. Seedlings suspected although no symptoms at transplanting.  |
| 7                 | 18 June                 | F                                | <b>Poland</b><br>Lezajsk (South)                               | Variety Wislica FCV. 1-2 leaves affected by plant, with avg 8 lesions per leaf. Treated with Ridomil Gold after infection.  |
| 8                 | 9 June                  | F                                | <b>Poland</b><br>Kazimierza Wielka                             | Variety Milenium (dark). 1-2 leaves affected by plant, with 4-5 lesions per leaf. Treated with Ridomil Gold after infection.  |
| 9                 | 2-6 May                 | F                                | <b>Morocco</b><br>Fes - El Hajeb                               | Traces of blue mould on Burley B23 and FCV SG28   |
| 10                | 2 July                  | F                                | <b>France</b><br>Alsace  | Spots and some sporulation at growing stage. Area affected 0.30 ha.   |
| 11                | 8 July                  | F                                | <b>Poland</b><br>Lublin  | Var. Wislica FCV. Stage 10 leaves. 1-4 leaves affected/plant. 4 lesions/leaf. Removal of infected bottom leaves. 1 ha affected, loss estimated 300 kg. Preventive treatment Ridomil Gold on 2 July.   |
| 12                | 17 July                 | F                                | <b>Germany</b><br>Rhine valley<br><br><b>Austria</b><br>Styria | Severe outbreaks in the field. <b>Metalaxyl treatments apparently ineffective</b> , infection controlled only after subsequent use of dimetomorph.<br><br>Burley 12-14 leaves. Plot 0.5 ha, 10% infected, with 2-4 leaves infected/plant and 2-3 lesions/leaf. Preventative treatment w/ Ridomil MZ 72 WP on 27 June and again after infection. |

**Blue Mould Warning Service - Warnings despatched in 2002 (Continued)**

| <b>Warning N°</b> | <b>Date of Outbreak</b> | <b>Seedbed (S)<br/>Field (F)</b> | <b>Country/Region</b>   | <b>Observations</b>   |
|-------------------|-------------------------|----------------------------------|---|---|
| 13                | 19 July                 | F                                | <b>France</b><br>Alsace   | Numerous outbreaks in the region, several plots were destroyed. Climatic conditions were conducive to blue mould.   |
| 14                | mid July<br><br>24 July | F<br><br>F                       | <b>Germany</b><br>Rhine Valley<br>Bavaria<br><br><b>Italy</b><br>Umbria | Several outbreaks treated with metalaxyl and dimetomorph. Several plots destroyed.<br><br>Outbreaks on FCV ITB 609, K394 and K326 Treatment with Ridomil Gold controlled the disease.   |
| 15                | 7 August                | F                                | <b>France</b><br>South-west<br><br><br>Loire valley                     | Systemic outbreak on lower leaves of Burley ITB501. Three treatments with Acylon carried out before outbreak.<br><br>Outbreak on lower leaves of Burley ITB501. Two treatments with Acylon carried out before outbreak. Affected plot destroyed (0.15 ha).  |
| 16                | 8-19 August             | F                                | <b>France</b><br>South-west<br><br>(four sites)                         | Non-systemic blue mould outbreak with sporulation on burley variety ITB 501 at flowering stage, on leaf levels X, C and B. 0,99 ha plot completely infected.<br><br>Blue mould outbreak with much sporulation on burley variety TN 90 at topping stage. All leaf levels affected. Plot destroyed.<br><br>Non-systemic outbreak of blue mould, with little sporulation, on burley variety ITB 221. Budding stage. Only a small section of the plot was affected.<br><br>Blue mould outbreak with high sporulation on all leaf levels of burley variety BB16A, after topping. Infected section of plot destroyed (0.20 ha). |
| 17                | 20 August               | F                                | <b>France</b><br>South-west   | Outbreak on Burley BB16A  |

## SITUATION PER GEOGRAPHICAL ZONE

### NORTH AFRICA

#### Morocco

A few outbreaks were recorded on seedbeds, the first on 25 March at Ouezzane and the latest on 14 May at Haouz (Marrakech). Seedbed loss was negligible, less than 1% of the total surface. Climatic conditions were not conducive to blue mould in 2002, and preventive measures had been taken under the supervision of the Régie des Tabacs.

Chemicals used for blue mould control are contact fungicides (Maneb, Mancozeb), and systemic fungicides (Cymoxanil, Metalaxyl, Oxadixyl).

#### Tunisia

The planted surface areas are 2590 ha of a local dark smoking variety (BC 8/4-7/2), with an additional 230 ha of Burley, 7 ha of Virginia and 37 ha of Oriental. Moreover, 73 ha of *N. Rustica* are grown for snuff. This amounts to a total of 2940 ha of tobacco.

The first outbreak of the season occurred on 18 May, in the northern part of the country, on seedbeds of dark air-cured tobacco, stage 5-6 leaves. In total, blue mould affected less than 1% of the BC 8/4-7/2 planted areas, with no significant loss.

Preventive treatments with Ridomil MZ 58 are applied from the stage 4 leaves, with one application every 10 days at the dose of 1.5-2 g/l.

No metalaxyl-resistant strains were identified.

### MIDDLE-EAST

#### Syria

Figures for 2001, not updated: Syria grows approx. 17165 ha of tobacco, including 3221 ha of Burley, 1595 ha of Virginia, 5743 ha of Oriental, 4421 ha of Balady and 2185 ha of Tombac and other types.

Three series of outbreaks occurred from 18 April to 7 May 2002 in the Saraden and Baniyas areas, affecting a total of 42 fields and 17 ha. The type of tobacco concerned was Balady, the percentage of infestation ranged from 3 to 19%, and systemic infection was observed. Infected transplants were pulled up and buried outside the fields, and applications of Ridomil Gold or Sandovan were made.

No metalaxyl-resistant strains were identified.

#### Turkey

Turkey grows 198,598 ha of tobacco, 98.6% of which are Oriental varieties. Only 2824 ha of flue-cured are grown.

A very small occurrence of blue mould was reported on seedbeds in April, in the area of Adapazari-Ormanköy, and was controlled by use of Ridomil MZ 72 WP, Antracol 70 WP and Dithane M 22.

## **SOUTH EAST EUROPE**

### **Bulgaria**

In 2002 Bulgaria grew approx. 30,000 ha of tobacco, including Virginia, Burley, Oriental and semi-oriental varieties.

The weather conditions were conducive to blue mould, but the first outbreak occurred late in the season, on 12 August, on Burley and Virginia fields, in the form of local spots with high sporulation, at flowering stage. Area affected was 5 ha. Other areas in the southern part of the country were affected late August. Total area affected was approx. 1% of the total.

Systemic-contact fungicide treatments with metalaxyl-based formulations (Ridomil Gold) and aluminum phosetil (Aliette) were applied successfully.

No metalaxyl-resistant strain was observed. No outbreak was observed on the trap collection.

### **Cyprus**

No occurrence of blue mould was observed on seedbeds or fields.

## **SOUTH WESTERN EUROPE**

### **France**

France grows 8716 ha of tobacco, including 4026 ha of Virginia, 3269 ha of Burley and 1321 ha of dark air-cured. Blue mould affected 11%, 2% and 1.5% respectively of the areas planted in those three types of tobacco, with estimated losses of 100, 20 and 1 tons respectively.

The first outbreak was recorded early July in the Alsace (east) and developed to an extent unknown in previous years. Other outbreaks of much lesser significance were recorded in the south-west, and a few isolated outbreaks and in the west and south-east.

Preventive treatments with fungicides are applied on seedbeds and fields. Resistant varieties are preferred whenever possible, and Ayclon Tabac (metalaxyl) is used for curative treatments.

A total of 50 hectares of tobacco were destroyed due to blue mould.

No metalaxyl-resistant strain has been found in France up to now.

### **Italy**

Italy grows approx 46100 ha of tobacco of various types. Flue-cured represents 19000 ha, Burley (and a small production of Maryland) 11500 ha, Fire-cured 3000 ha, Sun-cured (Oriental) 4600 ha and dark air-cured 8000 ha. (*Figures for the 1998 crop*)

A rather severe outbreak on seedbeds occurred on 15 April in Scafati (Campania), with high sporulation. 30% of the plants were affected. Later in the season, which was unusually wet, outbreaks occurred late July in Umbria (Central Italy) and Campania. Loss was very limited in the northern part of the country, and estimated at 15 kg/ha in Campania.

Four to five preventive applications of fungicides were practiced on the fields. Chemicals used are Ridomil Gold, Metalaxyl M alone or mixed with Mancozeb, Fosetyl al+mancozeb+cymoxanil, and oxadixyl+mancozeb.

No resistance to metalaxyl was reported.

### **Portugal**

Portugal grows 1715 ha of Virginia and 153 ha of Burley, all on a contract basis.

A severe outbreak occurred on 10 June in central Portugal on FCV McNair at the flowering stage, with high sporulation. Three ha were affected and treated with Ridomil MZ 72. Loss was insignificant.

Preventative dispositions include treatments with mancozeb and mancozeb+metalaxyl.

No metalaxyl-resistant strains were found.

## **CENTRAL AND NORTHERN EUROPE**

### **Austria**

Austria grows 115 ha of tobacco, (90% Burley, 10% dark air-cured).

Two blue mould outbreaks were reported, one mid-July and the other at the end of August, in the very eastern part of the country, with a low to medium infestation. The total area concerned is less than 1 ha, and the loss close to one ton.

The Growers Association maintains a control on seedbeds, planting materials and fields. Resistant cultivars are used whenever available. A warning service informs growers of blue mould appearance in Austria ([www.bfl.at](http://www.bfl.at)).

Preventive applications of Ridomil MZ 72 WP (0.25%) are made, the same chemical being used as a curative treatment.

No resistance to metalaxyl was reported.

### **Germany**

Germany grows 4880 ha of tobacco, including 2537 ha of FCV, 923 ha of Burley and 1420 ha of dark air-cured. The largest part of the crop is grown in the three southern/southwestern states of Baden-Württemberg, Rhein-Pfalz and Bayern.

Blue mould was a very serious problem in Germany in 2002, with severe outbreaks on the field starting mid-July. The three main growing states were the most affected, with a loss of 20% of the crop in Baden-Württemberg, 10% in Rheinland-Pfalz and 6% in Bayern. The loss in weight is approx. 800 tons. The other tobacco-growing states were hardly affected.

Moreover, following ineffective applications of metalaxyl, studies are being made on the existence of metalaxyl-resistant strains, but no clear conclusion has been drawn yet. Dimetomorph was used successfully in places where metalaxyl had been found inefficient.

### **Hungary**

No outbreak of blue mould was reported in Hungary in 2002.

Growers are advised to take preventive measures.

Chemicals used are Ridomil Gold 68WP, Galben M, Dithane M45, and Alliette 80WP.

### **Poland**

Poland grows 12440 ha of tobacco, including 7180 ha of Burley, 4780 ha of FCV and 480 ha of dark air-cured.

Three outbreaks were reported during the month of July in the south-east part of Poland. Tobacco surfaces affected were 2 ha of FCV and 1 ha of dark air-cured, with a loss limited to 300 kg.

After receiving first warning from Germany, farmers were advised to use Ridomil Gold MZ 68 WP (metalaxyl-M + mancozeb) or Acrobat MZ 69 WP (dimetomorph + mancozeb) as preventive sprays.

Control means used include fungicides (Ridomil Gold MZ 68 WP, Ridomil MZ 72 WP, Acrobat MZ 69 WP) and use of resistant varieties Bursan (Burley).

No metalaxyl resistant strains were observed.

### **Switzerland**

Switzerland grows 648 ha of tobacco, including 85% of Burley and 15% of Virginia.

In 2002, the first outbreak was observed on 9 August. Surfaces of 10-20 ha (Burley and Virginia) were affected by blue mould, in the Broye plain (Vaud and Fribourg cantons) and Jura canton, but losses were very low (less than 5 tons).

Growers must strictly abide by preventive dispositions and declare any outbreak of blue mould. Seedbeds are treated with Zineb twice a week. Systemic fungicides are forbidden on seedbeds. Fields are treated every other week with Maneb. No treatment is allowed less than one week before harvest.

When an outbreak is discovered, it must be declared to the cantonal phytosanitary service. Infected plots are destroyed and neighbouring zones treated with systemic fungicides (phenylamids, Mancozeb).

Sanitation precautions include destroying seedbeds after transplanting, early harvesting of lower leaves, and burrowing of plants after harvest.

No metalaxyl resistant strains were observed.



## **BLUE MOULD WARNING SERVICE GENERAL REPORT FOR 2003**

by François JACOB  
Secretary General, CORESTA

### **Introduction:**

The Blue Mould Warning Service of CORESTA has been active since 1963, and is coordinated by the General Secretariat in Paris. It covers the following zones and countries, although a contact has not necessarily been established with every single country listed in the table hereunder.

### **Zones and countries**

*North Africa:* Algeria, Morocco, Tunisia

*Middle-East:* Iran, Lebanon, Syria, Turkey

*South East Europe:* Albania, Bulgaria, Croatia, Cyprus, Greece, Macedonia, Romania, Serbia

*South West Europe:* France, Italy, Portugal, Spain

*Northern & Central Europe:* Austria, Belgium, Germany, Hungary, Poland, Slovakia, Switzerland

Thirty-six organisations from twenty-four countries participated in 2003 in the Blue Mould Warning Service (same figures as for 2002).

Fifteen warnings (against seventeen in 2002), signalling 21 areas of infestation in the investigated zone, were despatched by the General Secretariat to the participating Organisations, and also displayed on the CORESTA web-site.

### **General Outlook**

Whereas the summer of 2002 in Europe was generally wet and cold, the summer of 2003 was exceptionally warm and dry. It is therefore not surprising that the extent, intensity and consequences of blue mould were considerably reduced in 2003 compared with 2002.

The existence of metalaxyl-resistant strains was again suspected in Germany, and for the first time in Austria.

The following table gives a summary of the warnings despatched in 2003.

**Blue Mould Warning Service - Warnings despatched in 2003**

| <b>Warning N°</b> | <b>Date of Outbreak</b> | <b>Seedbed (S)<br/>Field (F)</b> | <b>Country/Region</b>               | <b>Observations</b>  |
|-------------------|-------------------------|----------------------------------|-------------------------------------|--|
| 1                 | 8 April                 | S                                | <b>Tunisia</b><br>Northern Tunisia  | Dark variety 8-4/7-2. Light outbreak treated with Ridomil MZ 58  |
| 2                 | 9 April                 | S                                | <b>Morocco</b><br>Ain Dorrij        | Dark tobacco B 47 – stage 5-6 leaves – Traces of blue mould  |
| 3                 | 5 & 24 April            | S                                | <b>Iran</b>                         | Var. Bergerac C, Burley 21 and basma 178-2. Medium to high sporulation, treated with Ridomil MZ 72 and mancozeb  |
| 4                 | 2 May                   | S                                | <b>Bulgaria</b><br>Plovdiv          | Virginia seedlings stage 4-6 leaves. Medium to high sporulation. Treated with Ridomil Gold 68 WP.  |
|                   | 2 June                  | F                                | <b>Germany</b><br>Freiburg          | Outbreak on a Burley field. Sporulation on several plants 3 weeks after transplantation. Affected plants destroyed and plots treated with Acrobat Plus WG  |
| 5                 | 6 June                  | F                                | <b>Germany</b><br>North Baden       | Outbreaks on fields. Affected plants destroyed and plots treated with Acrobat Plus WG  |
|                   | 2 June                  | F                                | <b>Tunisia</b><br>Northern Tunisia  | Light outbreak in the field on dark variety 8-4/7-2. Climatic conditions conducive to blue mould. Treatment with Ridomil MZ 58   |
| 6                 | 19 June                 | F                                | <b>Germany</b><br>Lower Saxony      | Outbreaks on fields. Seedlings supplied from southwestern Germany where blue mould occurred on 2 June. Analysis by University of Hohenheim shows resistance to metalaxyl, but original contamination source unclear. |
|                   | 23 June                 | F                                | <b>Germany</b><br>Rheinland Pfalz   | Outbreaks in the field. Affected plants destroyed and tobacco treated with dimetomorph.  |
|                   | 9 June                  | F                                | <b>Iran</b><br>Northern Iran        | Outbreak on the field with medium sporulation.   |
| 7                 | 27 June                 | F                                | <b>Germany</b><br>Bavaria           | Small sporadic outbreaks, treated with dimetomorph.  |
|                   | 27 June                 | F                                | <b>Austria</b><br>Eastern Styria    | Outbreak on 0,5 ha of Burley. Area affected treated with Ridomil Gold MZ WG (0,25%)  |
| 8                 | 8 July                  | F                                | <b>Germany</b><br>South-West & West | Several small outbreaks in the field; treated with dimetomorph.  |
| 9                 | 14 July                 | F                                | <b>Poland</b><br>South              | Variety Wislica (FCV) stage 12 leaves, plot of 1,2 ha, 2-3% plants infected. Bottom leaves removed. Treatment with Ridomil Gold 68 WP.   |



**Blue Mould Warning Service - Warnings despatched in 2003 (Continued)**

| <b>Warning N°</b> | <b>Date of Outbreak</b> | <b>Seedbed (S)<br/>Field (F)</b> | <b>Country/Region</b>               | <b>Observations</b>   |
|-------------------|-------------------------|----------------------------------|-------------------------------------|---|
| 10                | 18 July                 | F                                | <b>France</b><br>North              | Outbreak on 200 plants at growing stage. Not systemic. Plants destroyed and plot treated with Acrobat.  |
| 11                | 23 July                 | F                                | <b>Portugal</b>                     | Light outbreak on variety As/04 DF in field of 12 ha at early flowering stage. Treated with Ridomil MZ 72.  |
| 12                | 22 July                 | F                                | <b>Switzerland</b><br>Thurgau       | Outbreak on Virginia var Golta. Affected plants destroyed and plot treated with Ridomil Gold  |
|                   | 29 July                 | F                                | <b>France</b><br>Dordogne           | Outbreak on 0,10 ha of Burley BB16A after topping, with some sporulation on lower leaves. Treatment with Maneb and Acylon TC.   |
| 13                | 30 July                 | F                                | <b>Austria</b><br>Upper Austria     | Outbreak on 1,4 ha of Burley at early flowering stage. Field treated with Ridomil Gold MZ WP two weeks before outbreak. Affected plants destroyed and field treated with Ortiva (Azoxystrobin) and Dithane Neo Tec (Mancozeb) |
| 14                | 12 August               | F                                | <b>France</b><br>Drôme (South East) | Outbreak on 0,10 ha Virginia ITB 33024 after topping. Some sporulation on lower leaves. Field previously treated after transplanting and before topping.  |
| 15                | 14 August               | F                                | <b>Poland</b><br>Southern Poland    | Outbreak on 0,8 ha of FCV DH 17, fully developed, with 40% plants infected and loss of 200 kgs.   |
|                   |                         |                                  |                                     | Other outbreak of dark var. Makar, 0,7 ha, with few plants affected and insignificant loss.   |

## SITUATION PER GEOGRAPHICAL ZONE

### NORTH AFRICA

#### Morocco

A few outbreaks were recorded on seedbeds early April in several growing areas. Weather then was humid and cool. Seedbed loss was negligible.

Preventative measures were implemented under the supervision of the Régie des Tabacs.

Chemicals used for blue mould control were contact fungicides (Maneb, Mancozeb), and systemic fungicides (Cymoxanil, Metalaxyl, Oxadixyl).

### MIDDLE-EAST

#### Iran

A few outbreaks on seedbeds were observed from mid-March to mid-April, with chlorotic spots. In the field a few outbreaks were observed early June on Burley tobaccos, in the Mazandaran, Amreh and Chahar Dangeh areas. In 2003 the total area planted with tobacco was 13730 ha, including 4200 ha for oriental, 4200 ha for Flue-Cured, 2600 ha for Burley, 2260 ha for Tombacs and 470 ha for others.

### SOUTH EAST EUROPE

#### Bulgaria

In 2003 Bulgaria grew approx. 35,000 ha of tobacco, including Virginia, Burley, Oriental and semi-oriental varieties.

Blue mould outbreaks occurred on Virginia seedbeds in May in the Plovdiv area. By the end of June the disease affected 4-5% of total planted areas.

Systemic-contact fungicide treatments with metalaxyl-based formulations (Ridomil Gold) and aluminum phosetil (Aliette) were applied successfully.

No metalaxyl-resistant strain was observed.

#### Cyprus

No occurrence of blue mould was observed on seedbeds or fields.

#### Romania

In 2003, Romania grew 5.860 ha of tobacco, including 2319 ha of Virginia flue-cured, 878 ha of Burley, 781 ha of Oriental and 1882 ha of other tobaccos

Due to the climatic conditions (very dry and warm weather in spring and summer) no outbreaks of blue mould were observed.

Preventative treatments are applied on the seedlings. Moreover, most Romanian cultivars are tolerant to blue mould, in the seedbed and in the field. Fungicides used in the seedbed are Captan and Metalaxyl.

## **SOUTH WESTERN EUROPE**

### **France**

In 2003 France grew 8627 ha of tobacco, including 4150 ha of Virginia, 3379 ha of Burley and 1098 ha of dark air-cured. Blue mould affected a negligible proportion of the areas planted in all types of tobacco.

Due to a very warm and dry summer, only three outbreaks, with no economic consequences, were recorded. They occurred in three different parts of France (North, South-west, South-east)

Preventive treatments with fungicides are applied on seedbeds and fields. Resistant varieties are preferred whenever possible, and Bion MX (acibenzolar-S-methyl + mefenoxam) is used for curative treatments.

Only 200 tobacco plants were destroyed due to blue mould.

No metalaxyl-resistant strain has been found in France up to now.

### **Italy**

Due to exceptionally warm and dry conditions, no outbreak of blue mould was recorded in 2003.

Preventative treatments were made using Ridomil Gold and, for the first time, Bion MX.

### **Spain**

Spain grows 15000 ha of tobacco, including 12000 ha of Virginia and 3000 ha of Burley (types E and F).

Early July in the region of Caceres, blue mould affected an area of 150 ha of Virginia, with a loss of 10 tons. High humidity and mild temperatures during the night are thought to be at the origin of this outbreak. The area was treated with metalaxyl+mancozeb.

Metalaxyl and benalxyl are used alternately for preventative treatments on seedbeds and fields.

No resistance to metalaxyl was reported.

## **CENTRAL AND NORTHERN EUROPE**

### **Austria**

Austria grows 115 ha of tobacco, (89% Burley, 10% dark air-cured, 1% Virginia).

Two blue mould outbreaks were reported, one at the end of June in Styria, (3,4 ha affected, loss 1200 kg) and the other at the end of July in Upper Austria (1,4 ha affected, loss 300 kg).

Experts from the Growers Association and from plant protection companies found strains with at least partial resistance to metalaxyl.

The Growers Association maintains a control on seedbeds, planting materials and fields. Resistant cultivars are used whenever available. A warning service informs growers of blue mould appearance in Austria ([www.bfl.at](http://www.bfl.at)).

Three recommendations for spraying the field were made on 27 June, 7 July and 31 July.

Products recommended are:

Ridomil Gold MZ WG [Metalaxyl M (40 g a.i.), Mancozeb (640 g a.i.) – 0,25%]

Ortiva [Azoxystrobin (250 g a.i.) – 0,1%]

Dithane Neo Tec [Mancozeb (750 g a.i.) – 0,05%]

### **Germany**

Germany grows approx. 4700 ha of tobacco, including 2490 ha of FCV, 960 ha of Burley and 1250 ha of dark air-cured. The largest part of the crop is grown in the three southern/southwestern states of Baden-Württemberg, Rhein-Pfalz and Bayern.

In 2003, only 25 ha of tobacco (23 ha Virginia, 2 ha Burley) were affected by blue mould, with a loss of a few tons of Virginia.

The few outbreaks were recorded early June in Baden-Württemberg, then in Rheinland-Pfalz and Bavaria.

Treatments on seedbeds: 2-3 applications of Dimetomorph, Ridomil TK, Acrobat Plus  
Field treatments are made with Dimetomorph, Acrobat Plus and Ridomil TK.  
In case of an outbreak, the affected plants are harvested and destroyed.  
Signs of resistance to metalaxyl were once again observed by German laboratories.

### **Hungary**

No outbreak of blue mould was reported in Hungary in 2003.

Growers are advised to take preventive measures.

Chemicals used are:

Ridomil Gold 68WP (metalaxyl + mancozeb)

Galben M (benalaxyl + mancozeb)

Dithane M45 (mancozeb)

Alliette 80WP (Fosetil-Al)

Amistar (Azoxystrobin)

### **Poland**

Poland grows approx 15010 ha of tobacco, including 9630 ha of FCV, 4640 ha of Burley and 740 ha of dark air-cured.

Three outbreaks were recorded in 2003, one mid-July, and two mid-August in the south-east part of Poland. Tobacco surfaces affected were 2 ha of FCV and 1 ha of dark air-cured, with a loss limited to 300 kg.

After receiving the first warning from Germany, farmers were advised to use Ridomil Gold MZ 68 WP (metalaxyl-M + mancozeb) or Acrobat MZ 69 WP (dimetomorph + mancozeb) as preventive sprays.

Control means used include fungicides (Ridomil Gold MZ 68 WP, Ridomil MZ 72 WP, Acrobat MZ 69 WP) and use of resistant varieties Bursan (Burley).

No metalaxyl resistant strains were observed.

### **Switzerland**

In 2003, Switzerland grew 680 ha of tobacco, including 81% of Burley and 19% of Virginia.

A single outbreak was observed on 22 July in Turgau on Virginia tobacco. Affected plants were destroyed and the plot treated with Ridomil Gold

Growers must strictly abide by preventive dispositions and declare any outbreak of blue mould. Seedbeds are treated with Zineb twice a week. Systemic fungicides are forbidden on seedbeds. Fields are treated every other week with Maneb. No treatment is allowed less than one week before harvest.

When an outbreak is discovered, it must be declared to the cantonal phytosanitary service. Infected plots are destroyed and neighbouring zones treated with systemic fungicides (phenylamids, Mancozeb).

Sanitation precautions include destroying seedbeds after transplanting, early harvesting of lower leaves, and burrowing of plants after harvest.

No metalaxyl resistant strains were observed.



## **BLUE MOULD WARNING SERVICE GENERAL REPORT FOR 2004**

by François JACOB  
Secretary General, CORESTA

### **Introduction:**

The Blue Mould Warning Service of CORESTA has been active since 1963, and has been coordinated by the General Secretariat in Paris. It was recently decided to merge it with the Sub-Group Blue Mould Study, with effect from 2005.

The following zones and countries are covered, although a contact has not necessarily been established with every single country listed in the table hereunder.

### **Zones and countries**

*North Africa:* Algeria, Morocco, Tunisia

*Middle-East:* Iran, Lebanon, Syria, Turkey

*South East Europe:* Albania, Bulgaria, Croatia, Cyprus, Greece, Macedonia, Romania, Serbia

*South West Europe:* France, Italy, Portugal, Spain

*Northern & Central Europe:* Austria, Belgium, Germany, Hungary, Poland, Slovakia, Switzerland.

Thirty-six organisations from twenty-four countries participated in 2004 in the Blue Mould Warning Service (same figures as for 2003).

Sixteen warnings (against 15 in 2003), signalling 26 areas of infestation in the investigated zone, were despatched by the General Secretariat to the participating Organisations, and also displayed on the CORESTA web-site.

### **General Outlook**

Very few outbreaks were reported on seedbeds, and in spite of the numerous outbreaks reported on the field, it seems that overall damage was kept at a very low level.

Compared with other years, blue mould appeared fairly later, and half of the warnings were issued after mid-July, an unusual proportion.

The following table gives a summary of the warnings despatched in 2004.

**Blue Mould Warning Service - Warnings despatched in 2004**

| <b>N°</b> | <b>Date of Outbreak</b> | <b>Seedbed (S)<br/>Field (F)</b> | <b>Country (Region)</b>                    | <b>Observations</b>  |
|-----------|-------------------------|----------------------------------|--|--|
| 1         | 11 March                | <b>S</b>                         | <b>Tunisia</b><br>Kelibia                  | Dark air-cured tobacco variety 8-4/7-2 - Light, localised outbreak in seedbeds at transplanting stage.   |
|           |                         | <b>F</b>                         | <b>Tunisia</b><br>Gabès                    | Snuff tobacco variety Souffi Gabès – Light, outbreak on field tobacco (10 leaf stage). Climatic conditions favourable to blue mould. In both cases, treatment with Ridomil MZ 58.  |
| 2         | 18 April                | <b>S</b>                         | <b>Iran</b><br>Golestan<br>Mazandaran      | Outbreak in seedbeds on Virginia tobacco seedlings at transplanting stage. Chlorotic spots with medium sporulation.  |
|           | 21 April                | <b>S</b>                         |  | Treatment with Metalaxyl-Mancozeb.   |
| 3         | 20 April                | <b>S</b>                         | <b>Tunisia</b><br>Sejenane<br>(north-east) | Sejenane – Medium to serious outbreak on young plants (4 leaf stage). Local dark air-cured tobacco variety 8-4/7-2.  |
|           |                         | <b>F</b>                         | Gabès<br>(south-east)                      | Gabès – Serious outbreak on field tobacco (10-12 leaf stage). Local snuff variety Souffi Gabès. Climatic conditions very favourable to blue mould. Treatment with Ridomil MZ 58.   |
| 4         | 6-8 May                 | <b>S</b>                         | <b>Iran</b><br>Tirtash                     | Outbreak of blue mould in seedbeds on seedlings at transplanting stage. Variety Bergerac C – systemic symptoms with deformation of veins. Variety Burley 21 – chlorotic spots with medium sporulation. Treatment with Metalaxyl mancozeb.  |
| 5         | 18 June                 | <b>F</b>                         | <b>Bulgaria</b><br>Plovdiv                 | First outbreak of blue mould on tobacco in the field (4-6 leaf stage). 5 ha of Virginia 454 variety affected - chlorotic spots with high sporulation. Climatic conditions very favourable to blue mould. Treatment with Metalaxyl mancozeb.  |
| 6         | 7 July                  | <b>F</b>                         | <b>Germany</b><br>Forchheim                | Very light outbreak of blue mould on tobacco in the field. A few flue-cured tobacco breeding lines and one burley tobacco breeding line with blue mould symptoms on one leaf each (a few spots sporulated). Affected leaves removed - tobacco treated with Forum (15% Dimethomorph). |
| 7         | 7 July                  | <b>F</b>                         | <b>Poland</b><br>(Southern)                | Infection reported from 3 fields in the southern part of Poland. 8% out of 5 hec. infected (10 leaves on a plant with 10 spots on each leaf in average). Variety TN 86. Affected leaves removed and tobacco treated with Ridomil Gold MZ 68 WG.                                      |

**Blue Mould Warning Service - Warnings despatched in 2004 (Continued)**

| <b>N°</b> | <b>Date of Outbreak</b> | <b>Seedbed (S)<br/>Field (F)</b> | <b>Country (Region)</b>      | <b>Observations</b>   |
|-----------|-------------------------|----------------------------------|------------------------------|---|
| 8         | 19 July                 | <b>F</b>                         | <b>Switzerland</b>           | Blue mould outbreak on Burley var. BS93. Tobacco plants are approx. 1,50 m high, harvesting of bottom leaves in course. Plot treated with Ridomil Gold, and a new treatment scheduled after a couple of days  |
| 9         | 20 July                 | <b>F</b>                         | <b>Poland (south-east)</b>   | 3 leaves on a plant with 3 lesions on each leaf in average. Variety Wislica. Ridomil Gold MZ 68 WG was used as a preventive spray on 7th July. Affected leaves removed. 3 leaves in average reaped to improve ventilation.  |
|           | 20 July                 | <b>F</b>                         | <b>France (Eastern)</b>      | Outbreak of blue mould on a plot of 2 ha of ITB501 (Burley) at blossoming stage, under climatic conditions very conducive to blue mould. Treatment: 3 x Bion MX + 1 Maneb   |
|           | 20 July                 | <b>F</b>                         | <b>France (Western)</b>      | Outbreak of blue mould on a plot of 1 ha of ITB33024 (Virginia) at blossoming stage, under climatic conditions very conducive to blue mould. A few spots on lower stalk leaves. Treatment: Bion MX  |
| 10        | 21 July                 | <b>F</b>                         | <b>Germany (Western)</b>     | Light outbreak of blue mould on the field (var. Burley B901). A few sporulations. Affected leaves removed then tobacco treated with Forum (dimetomorph).  |
|           | 22 July                 | <b>F</b>                         | <b>France (Eastern)</b>      | Blue mould outbreak on a farm growing 4.50 ha of tobacco. Only 0.02 ha affected. Virginia varieties ITB 33024 and ITB 620 at blossoming stage. A few scattered spots with sporulation on lower stalk positions. Preventative treatment with manebe and Bion MX, then curative treatment when disease occurred.                                      |
| 11        | 27 July                 | <b>F</b>                         | <b>France (Southwestern)</b> | Blue mould outbreak on farm growing 1 ha of tobacco. 0.15 ha of burley variety BB16C at topping stage affected – a few spots on lower stalk positions. Preventative treatment with Bion MX. Pennebe used as curative treatment after outbreak. Conditions conducive to blue mould – hot, humid weather and tobacco field in poorly ventilated area. |
| 12        | 28 July                 | <b>F</b>                         | <b>Germany (Northern)</b>    | Blue mould outbreak on flue-cured tobacco variety Golta, just before flowering stage. Affected leaves removed and tobacco treated with Forum (15% Dimethomorph).  |
|           | 3 Aug                   | <b>F</b>                         | <b>Germany (Southern)</b>    | Light outbreak of blue mould on approximately 10 m <sup>2</sup> of field tobacco - Burley variety B901. Affected leaves removed and tobacco treated with Forum (Dimethomorph).  |

**Blue Mould Warning Service - Warnings despatched in 2004 (Continued)**

| <b>N°</b> | <b>Date of Outbreak</b> | <b>Seedbed (S)<br/>Field (F)</b> | <b>Country (Region)</b>         | <b>Observations</b>   |
|-----------|-------------------------|----------------------------------|---------------------------------|---|
| 13        | 2 Aug                   | F                                | <b>France</b><br>(Western)      | Non-systemic outbreak of blue mould on Virginia variety ITB33024. Plants at blooming stage. Sporulation on all stalk positions. Plants on affected plot (1.7 ha) destroyed. Conditions favourable to blue mould – high humidity.  |
| 14        | 28 Aug                  | F                                | <b>France</b><br>(Western)      | Non-systemic outbreak of blue mould on 0.45 ha of Burley variety BB16A. Plants at post-topping stage. Sporulation on entire plant (light sporulation on upper stalk and intense sporulation on lower stalk positions). Plants not destroyed.  |
| 15        | 2 Sept                  | F                                | <b>France</b><br>(Southwestern) | Outbreak of blue mould on Burley tobacco variety ITB 221. Area of 0.20 ha affected on plot of 2.51 ha. Plants at blooming stage. Some sporulation on the lower stalk positions (X+C). Tobacco grown in a west facing zone shaded by plane trees. Plants in affected area destroyed. |
| 16        | 7 Sept                  | F                                | <b>France</b><br>(Southwestern) | Non systemic outbreak of blue mould on 0.47 ha of Burley ITB 501. Post-topping stage. Sporulation on lower stalk positions. Late planted tobacco sown after storm, irregular growth. Plants not destroyed.  |
|           | 9 Sept                  | F                                | <b>France</b><br>(Western)      | Systemic outbreak of blue mould on 0.15 ha of Burley ITB 501. Tobacco at harvesting stage. Sporulation on entire plant, but especially on the upper stalk positions. Plot destroyed.  |
|           | 14 Sept                 | F                                | <b>France</b><br>(Southwestern) | Non systemic outbreak of blue mould on 0.40 ha of Burley ITB 501. Tobacco at harvesting stage. Intense sporulation on lower stalk positions. Plot situated in valley shaded by poplar trees. Affected plants destroyed.   |
|           | 13 Sept                 | F                                | <b>Switzerland</b><br>(Jura)    | Outbreak of blue mould on approx. five plants – Burley tobacco variety 92. A few spots detected, start of sporulation. Affected plants destroyed – plot to be destroyed shortly.  |



## SITUATION PER GEOGRAPHICAL ZONE

Very few reports were received as of early November. Participants are welcome to send a report on their own country.

### SOUTH EASTERN EUROPE

#### Bulgaria

In 2004 Bulgaria grew approx. 45,000 ha of tobacco, including Virginia, Burley, Oriental and semi-oriental varieties (the figure for 2003 was 35,000 ha).

The first outbreaks occurred mid-June near Plovdiv on Burley and Flue-Cured fields, under climatic conditions conducive to the disease. By the end of June the whole southern part of Bulgaria was affected, for all types of tobaccos. An estimated 10% of the crop was affected.

Systemic-contact fungicide treatments with metalaxyl-based formulations (Ridomil Gold), dimetomorph (Acrobat MZ) and aluminum phosetil (Aliette) were applied successfully.

No metalaxyl-resistant strain was observed.

#### Cyprus

No occurrence of blue mould was observed on seedbeds or fields.

### SOUTH WESTERN EUROPE

#### France (as of end of August)

##### Area grown

| Type of tobacco  | ha           | % of total area |
|------------------|--------------|-----------------|
| • Virginia       | 4 024        | 49              |
| • Burley         | 3 306        | 41              |
| • Dark air-cured | 807          | 10              |
| <b>TOTAL</b>     | <b>8 137</b> | <b>100</b>      |

##### Area affected by blue mould

| Type of tobacco  | Affected area (ha) | % affected |
|------------------|--------------------|------------|
| • Virginia       | 2.7                | <1 %       |
| • Burley         | 2                  | <1 %       |
| • Dark air-cured | 0.15               | Negligible |
| <b>TOTAL</b>     | <b>4.85</b>        |            |

Estimated loss : 5 tons of Virginia tobacco.

Preventative treatments are applied at regular intervals on seedbeds and fields. Resistant varieties are used.

Curative treatments consist of Bion MX application and destruction of most affected plots.

#### Italy

In Northern Italy, no outbreaks were observed. Bion MX or Ridomil Gold treatments are applied at regular intervals

In Southern Italy, a strong outbreak on seedbeds was observed on April 20<sup>th</sup>, and on the field on May 10<sup>th</sup> and 18<sup>th</sup>, both in Campania.

Treatments on the field are made with 4 - 5 sometimes more fungicides depending on the type of a.i. used. (dimetomorph; metalaxyl m alone or in mixture with acybenzolar S methyl and then mancozeb; Fosetyl al + mancozeb + cymoxanil; oxadixyl + mancozeb).

## **CENTRAL AND NORTHERN EUROPE**

### **Hungary**

No outbreak of blue mould was reported in Hungary in 2004.

Growers are advised to take preventive measures.

Chemicals used are:

Ridomil Gold 68WP (metalaxyl + mancozeb)

Amistar (azoxistrobin)

Dithane M-45 ( mancozeb)

Alliette 80WP (Fosetil-AI)

## **MIDDLE EAST**

### **Syria**

In April and May, many outbreaks were observed on the fields, especially those transplanted early in the season, in the Banias area.

The disease was controlled by the extension services and tobacco growers.