

## **ANNEX 8**

### **BIOMETRICAL REPORT FOR THE 2011 PLANTING SEASON - APPENDIX**

**© 2012 BASF Plant Science Company GmbH. All Rights Reserved.**

This document is protected under copyright law. This document and the information contained herein are for use only by the regulatory authority to which it has been submitted by BASF Plant Science Company GmbH ("BPS"), and only in support of actions requested by BPS. Any other use of this document and the information contained herein requires the prior written consent of BPS. The submission of this document by BPS shall not be construed as granting of any rights or licenses.

# Post market monitoring of Amflora starch potatoes

Biometrical report for the 2011 planting season  
Appendix

Groß Lüsewitz, March 16, 2012

# List of Tables

|   |    |
|---|----|
| A.1 Code of Questionnaire, country and county . . . . .   | 2  |
| A.2 Size . . . . .  | 2  |
| A.3 Conventional varieties . . . . .  | 3  |
| A.4 Comparison with . . . . .   | 3  |
| A.5 Cadastral information . . . . .   | 4  |
| A.6 Soil . . . . .  | 4  |
| A.7 Soiltest I . . . . .  | 5  |
| A.8 Soiltest II / Soil fertility . . . . .  | 5  |
| A.9 Comparator . . . . .  | 5  |
| A.10 Rainfall / Temperature . . . . .   | 6  |
| A.11 Characterization of Rainfall and Temperature . . . . .   | 6  |
| A.12 Preceding crops / Tillage . . . . .  | 7  |
| A.13 Methods of tillage / Inter crop . . . . .  | 7  |
| A.14 Methods of tillage / Inter crop . . . . .  | 8  |
| A.15 Data relating to seed potatoes . . . . .   | 8  |
| A.16 Treatment of seed and comments . . . . .   | 9  |
| A.17 Planting I . . . . .   | 9  |
| A.18 Planting II . . . . .  | 10 |
| A.19 Test of foreign varieties/ Irrigation . . . . .  | 10 |
| A.20 Characterization of sprouting, time to emergence, plant growth and agronomic characteristics . . . . . | 11 |
| A.21 Mineral fertilizers [kg/ha] . . . . .  | 11 |
| A.22 Weed pressure and weeds . . . . .  | 12 |
| A.23 Herbicides . . . . .   | 12 |

---

|      |  |    |
|------|--|----|
| A.24 | Characterization of success of weed control . . . . .  | 13 |
| A.25 | Pest occurrence in Amflora, pest susceptibility of Amflora and pests that occurred . . . . . | 13 |
| A.26 | Insecticides . . . . .   | 14 |
| A.27 | Characterization of success of pest control . . . . .  | 16 |
| A.28 | Disease occurrence in Amflora and disease susceptibility of Amflora . . . . .                | 16 |
| A.29 | Late blight pressure in Amflora and used fungicides . . . . .                                | 16 |
| A.30 | Characterization of success of late blight control . . . . .                                 | 18 |
| A.31 | Fungicides . . . . .   | 18 |
| A.32 | Characterization of success of control measures for other diseases . . . . .                 | 19 |
| A.33 | Use of herbicides for haulm killing . . . . .  | 20 |
| A.34 | Harvest . . . . .  | 20 |
| A.35 | Characterization of maturity . . . . .   | 21 |
| A.36 | Characterization of date of harvest . . . . .  | 21 |
| A.37 | Characterization of yield . . . . .  | 21 |
| A.38 | Presence of wild animals (mammals, birds, insects) . . . . .                                 | 22 |

## A.1 Farm

Table A.1: Code of Questionnaire, country and county

| <b>Nr. of Questionnaire</b> | <b>Code of Questionnaire</b> | <b>Country</b> | <b>County</b>   |
|-----------------------------|------------------------------|----------------|-----------------|
| 1050                        | 19-ST-AM-2011-DE-01-01       | Germany        | Sachsen-Anhalt  |
| 1051                        | 19-ST-AM-2011-SE-01-01       | Sweden         | Västra Götaland |
| 1052                        | 19-ST-AM-2011-SE-02-01       | Sweden         | Norrbottn       |
| 1053                        | 19-ST-AM-2011-SE-03-01       | Sweden         | Norrbottn       |
| 1054                        | 19-ST-AM-2011-SE-04-01       | Sweden         | Västra Götaland |

Table A.2: Size

| <b>Nr. of Questionnaire</b> | <b>Size of farm [ha]</b> | <b>Total area of all potatoes [ha]</b> | <b>Total area of Amflora potatoes [ha]</b> | <b>Size of Amflora Field [ha]</b> |
|-----------------------------|--------------------------|--|--|-----------------------------------|
| 1050                        | 25.00                    | 1.79                                   | 1.74                                       | 1.74                              |
| 1051                        | 250.00                   | 3.20                                   | 3.20                                       | 3.20                              |
| 1052                        | 100.00                   | 13.00                                  | 2.40                                       | 2.40                              |
| 1053                        | 120.00                   | 15.00                                  | 7.03                                       | 7.03                              |
| 1054                        | 230.00                   | 5.70                                   | 5.70                                       | 5.70                              |

Table A.3: Conventional varieties

| <b>Nr. of Questionnaire</b> | <b>Cultivated conventional varieties</b>                            | <b>Count of starch potato varieties (without Amflora)</b> | <b>Cultivated starch potato varieties</b> |
|-----------------------------|---|---|---|
| 1050                        | Desiree, Albatros, Fasan, Saturna                                   | 0   | -   |
| 1051                        | -   | 0   | -   |
| 1052                        | Mandel, Maritiema, King Edward, Sava, Arrow, Fontane                | 0   | -   |
| 1053                        | King Edward, Fontane, Mandel, Bintje, Energy, Ariel, Marianne, Erol | 0   | -   |
| 1054                        | -   | 0   | -   |

Table A.4: Comparison with

| <b>Nr. of Questionnaire</b> | <b>Comparator variety for Amflora</b> | <b>Comparison with</b>                   |
|-----------------------------|---------------------------------------|--|
| 1050                        | no                                    | General experience in potato cultivation |
| 1051                        | no                                    | General experience in potato cultivation |
| 1052                        | no                                    | General experience in potato cultivation |
| 1053                        | no                                    | General experience in potato cultivation |
| 1054                        | no                                    | General experience in potato cultivation |

## A.2 Location

Table A.5: Cadastral information

| Nr. of Questionnaire | Local subdistrict | Cadastral district       | Cadastral units          |
|----------------------|-------------------|--------------------------|--------------------------|
| 1050                 | Ausleben          |                          |                          |
| 1051                 | Skara             | confidential information | confidential information |
| 1052                 | Boden             |                          |                          |
| 1053                 | Haparanda         |                          |                          |
| 1054                 | Vinninga          |                          |                          |

### A.2.1 Soil

Table A.6: Soil

| Nr. of Questionnaire | Soil quality rating | Humus content [%] | Predominant soil type |
|----------------------|---------------------|-------------------|-----------------------|
| 1050                 | 73                  | 2.5               | Heavy loam            |
| 1051                 | 2                   | -                 | Slightly loamy sand   |
| 1052                 | 4                   | 4.8               | Slightly loamy sand   |
| 1053                 | 4                   | 7.8               | Slightly loamy sand   |
| 1054                 | -                   | 4.0               | Slightly loamy sand   |

Table A.7: Soiltest I

| Nr. of Questionnaire | Year of soiltest | pH-Value | P [mg]* | K [mg]* | Mg [mg] | Mn [mg] |
|----------------------|------------------|----------|---------|---------|---------|---------|
| 1050                 | 2011             | 6.2      | 11.68   | 13.38   | 16.58   | -       |
| 1051                 | 2000             | 6.6      | 6.0     | 12.0    | -       | -       |
| 1052                 | 2011             | 6.2      | 6.0     | 12.0    | 8.5     | -       |
| 1053                 | 2011             | 5.6      | 10.0    | 12.0    | -       | -       |
| 1054                 | 1998             | 6.0      | 6.0     | 12.0    | -       | -       |

\* Swedish farmers use a class system to evaluate values for P and K. For P class 3 stands for 4-8mg/100g soil and class 4A for 8-12mg/100g soil, for K class 3 stands for 8-16mg/100g soil. For calculations in the biometrical report the means of these classes were used.

Table A.8: Soiltest II / Soil fertility

| Nr. of Questionnaire | Date of $N_{min}$ | $NO_3 - N$ kg/ha | Test for nematodes | Result of test for nematodes | Soil fertility   |
|----------------------|-------------------|------------------|--------------------|------------------------------|------------------|
| 1050                 | 17.02.2011        | 24.0             | yes                | negative                     | average - normal |
| 1051                 |                   |                  | yes                | negative                     | average - normal |
| 1052                 |                   |                  | yes                | negative                     | average - normal |
| 1053                 |                   |                  | yes                | negative                     | average - normal |
| 1054                 |                   |                  | yes                | negative                     | average - normal |

Table A.9: Comparator

| Nr. of Questionnaire | Are the data given for Amflora the same as for comparator variety? |
|----------------------|--|
| 1050                 | no comparator variety  |
| 1051                 | no comparator variety  |
| 1052                 | no comparator variety  |
| 1053                 | no comparator variety  |
| 1054                 | no comparator variety  |



## A.2.2 Weather

Table A.10: Rainfall / Temperature

| <b>Nr. of Questionnaire</b> | <b>Average annual rainfall [mm]</b> | <b>for the years</b> | <b>Average annual temperature [°C]</b> | <b>for the years</b> |
|-----------------------------|-------------------------------------|----------------------|--|----------------------|
| 1050                        | 580                                 | 1961-1990            | 8.7                                    | 1961-1990            |
| 1051                        | 564                                 | 1961-1990            | 5.9                                    | 1961-1990            |
| 1052                        | 550                                 | 1961-1990            | 1.6                                    | 1961-1990            |
| 1053                        | 558                                 | 1961-1990            | 1.1                                    | 1961-1990            |
| 1054                        | 564                                 | 1961-1990            | 5.9                                    | 1961-1990            |

Table A.11: Characterization of Rainfall and Temperature

| <b>Nr. of Questionnaire</b> | <b>Characterize the rainfall (during growing season)</b> | <b>Characterize the temperature (during growing season)</b> |
|-----------------------------|--|---|
| 1050                        | above average - damp                                     | above average - warm  |
| 1051                        | above average - damp                                     | average - normal  |
| 1052                        | above average - damp                                     | above average - warm  |
| 1053                        | average - normal   | average - normal  |
| 1054                        | above average - damp                                     | average - normal  |

## A.3 Cultivation measures

### A.3.1 Cultivation, beginning after harvest of preceding crop

Table A.12: Preceding crops / Tillage

| Nr. of Questionnaire | Preceding crop 2 years ago | Preceding crop last year | Tillage? | Time of tillage           |
|----------------------|----------------------------|--------------------------|----------|---------------------------|
| 1050                 | Wheat                      | Sugar beet               | yes      | Fall or Winter            |
| 1051                 | Wheat                      | Barley                   | yes      | Fall or Winter            |
| 1052                 | Grass                      | Grass                    | yes      | Spring                    |
| 1053                 | Barley                     | Barley                   | yes      | Fall or winter and spring |
| 1054                 | Rye                        | Oat                      | yes      | Fall or Winter            |

Table A.13: Methods of tillage / Inter crop

| Nr. of Questionnaire | Method of tillage | Inter crop        |
|----------------------|-------------------|-------------------|
| 1050                 | turning           | no                |
| 1051                 | turning           | no                |
| 1052                 | turning           | no                |
| 1053                 | non-turning       | no                |
| 1054                 | turning           | English ray grass |

Table A.14: Methods of tillage / Inter crop

| <b>Nr. of Questionnaire</b> | <b>Other tillage Date 1</b> | <b>Other tillage prior planting 1</b> | <b>Other tillage Date 2</b> | <b>Other tillage prior planting 2</b> |
|-----------------------------|-----------------------------|---------------------------------------|-----------------------------|---------------------------------------|
| 1050                        | 06.04.2011                  | rotary harrow                         | 06.05.2011                  | rotary hiller                         |
| 1051                        | 06.05.2011                  | mill ridging                          | -                           | -                                     |
| 1052                        | 14.06.2011                  | milling                               | -                           | -                                     |
| 1053                        | -                           | -                                     | -                           | -                                     |
| 1054                        | 03.05.2011                  | mill ridging                          | -                           | -                                     |

### A.3.2 Data relating to seed potatoes

Table A.15: Data relating to seed potatoes

| <b>Nr. of Questionnaire</b> | <b>Category of seed</b> | <b>Sprouting [%]</b> | <b>Calibration</b>    | <b>Quantity of seed potatoes</b> |
|-----------------------------|-------------------------|----------------------|-----------------------|----------------------------------|
| 1050                        | Breeders own prestage   | 100                  | 35 - 55 mm            | 2.96 t/ha                        |
| 1051                        | SE2                     | 40                   | 35 - 55 mm            | 2.80 t/ha                        |
| 1052                        | SS-S1-S2                | 95                   | smaller               | 78000 Tubers/ha                  |
| 1053                        | S1-S2                   | 95                   | 35 - 55 mm and bigger | 2.00 t/ha                        |
| 1054                        | SE2                     | 35                   | 35 - 55 mm            | 2.80 t/ha                        |

Table A.16: Treatment of seed and comments

| <b>Nr. of Questionnaire</b> | <b>Treatment/ coating</b> | <b>Compound/ application rate</b>   | <b>Comments relating to seed/ treatment</b> |
|-----------------------------|---------------------------|---|---|
| 1050                        | yes                       | Monceren and Cuprozin (60 ml/dt, 0.40 l/ha),<br>Monceren and FZB 24 (60 ml/dt, 0.5 kg/ha) | each treatment at<br>50% of the area        |
| 1051                        | yes                       | Monceren (1.8 l/ha)   |   |
| 1052                        | no                        |   | big size difference                         |
| 1053                        | yes                       | Maxim (1.1 l/ha)  | dip treatment in the storage                |
| 1054                        | yes                       | Maxim (1.1 l/ha)  |   |

### A.3.3 Planting / Cultivation / Development

Table A.17: Planting I

| <b>Nr. of Questionnaire</b> | <b>Planting start</b> | <b>Soil-temperature during planting [°C]</b> | <b>Planting method</b>                  |
|-----------------------------|-----------------------|--|---|
| 1050                        | 07.05.2011            | 13.0   | standard planting (with plowed furrows) |
| 1051                        | 08.05.2011            | 10.0   | mulch planting                          |
| 1052                        | 15.06.2011            | 16.0   | standard planting (with plowed furrows) |
| 1053                        | 09.06.2011            | 12.0   | standard planting (with plowed furrows) |
| 1054                        | 07.05.2011            | 9.0  | mulch planting                          |

Table A.18: Planting II

| <b>Nr. of Questionnaire</b> | <b>Row distance [cm]</b> | <b>Plant distance [cm]</b> | <b>Forming ridges 1</b> | <b>Forming ridges 2</b> | <b>Emergence from</b> | <b>Emergence till</b> |
|-----------------------------|--------------------------|----------------------------|-------------------------|-------------------------|-----------------------|-----------------------|
| 1050                        | 75.00                    | 23.70                      | 07.05.2011              |                         | 30.05.2011            | 31.05.2011            |
| 1051                        | 80.00                    | 24.00                      | 29.06.2011              |                         | 02.06.2011            | 07.06.2011            |
| 1052                        | 80.00                    | 18.00                      |                         |                         | 01.07.2011            | 15.07.2011            |
| 1053                        | 85.00                    | 23.00                      | 20.06.2011              | 05.07.2011              | 01.07.2011            | 07.07.2011            |
| 1054                        | 80.00                    | 24.25                      | 11.05.2011              | 29.06.2011              | 04.06.2011            | 08.06.2011            |

Table A.19: Test of foreign varieties/ Irrigation

| <b>Nr. of Questionnaire</b> | <b>Test date 1</b> | <b>Test date 2</b> | <b>Test date 3</b> | <b>Test date 4</b> | <b>Irrigation</b> |
|-----------------------------|--------------------|--------------------|--------------------|--------------------|-------------------|
| 1050                        | 14.06.2011         | 23.06.2011         | 06.07.2011         | 19.07.2011         | no                |
| 1051                        | 29.06.2011         | 04.07.2011         | 11.07.2011         | 13.07.2011         | no                |
| 1052                        | 07.07.2011         | 14.07.2011         | 29.07.2011         |                    | no                |
| 1053                        | 05.07.2011         | 25.07.2011         |                    |                    | no                |
| 1054                        | 11.07.2011         | 13.07.2011         | 20.07.2011         |                    | no                |

Table A.20: Characterization of sprouting, time to emergence, plant growth and agronomic characteristics

| Nr. of Questionnaire | Sprouting | Time to emergence | plant growth | Agronomic characteristics |
|----------------------|-----------|-------------------|--------------|---------------------------|
| 1050                 | as usual  | as usual          | as usual     | as usual                  |
| 1051                 | as usual  | as usual          | as usual     | as usual                  |
| 1052                 | as usual  | as usual          | as usual     | as usual                  |
| 1053                 | as usual  | as usual          | as usual     | as usual                  |
| 1054                 | as usual  | as usual          | as usual     | as usual                  |

### A.3.4 Fertilization

Table A.21: Mineral fertilizers [kg/ha]

| Nr. of Questionnaire | Date       | Name         | Quantity | N    | P     | K     | Mg   |
|----------------------|------------|--------------|----------|------|-------|-------|------|
| 1050                 | 02.03.2011 | Kiserit      | 140.0    |      |       |       | 35.0 |
|                      | 03.03.2011 | TSP 46%      | 220.0    |      | 101.0 |       |      |
|                      | 07.03.2011 | Potash 40%   | 510.0    |      |       | 204.0 | 31.0 |
| 1051                 | 06.05.2011 | AHL 28%      | 286.0    | 80.0 |       |       |      |
|                      | 08.05.2011 | NPK 8-5-19   | 750.0    | 60.0 | 37.5  | 142.0 | 22.5 |
|                      | 22.06.2011 | Kalksalpeter | 200.0    | 30.0 |       |       |      |
| 1052                 | 14.06.2011 | NPK 8-5-19   | 1000.0   | 80.0 | 50.0  | 190.0 |      |
|                      | 14.06.2011 | P-20         | 200.0    |      | 20.0  |       |      |
|                      | 14.06.2011 | Kalimagnesia | 250.0    |      |       | 50.0  |      |
| 1053                 | 08.06.2011 | NPK 8-5-19   | 600.0    | 50.0 | 30.0  | 114.0 |      |
|                      | 08.06.2011 | P-9          | 100.0    |      | 9.0   |       |      |
|                      | 08.06.2011 | K-40         | 100.0    |      |       | 40.0  |      |
| 1054                 | 07.05.2011 | NPK 8-5-19   | 750.0    | 60.0 | 37.5  | 142.5 |      |
|                      | 22.06.2011 | Kalksalpeter | 150.0    | 23.0 |       |       |      |

### A.3.5 Chemical weed control

Table A.22: Weed pressure and weeds

| Nr. of Questionnaire | Weed pressure on Amflora | Observed weeds   |
|----------------------|--------------------------|--|
| 1050                 | fewer                    | <i>Brassica nappus</i> , <i>Chenopodium album</i> , <i>Solanum nigrum</i> , <i>Matricaria chamomilla</i> , <i>Galium aparine</i> |
| 1051                 | as usual                 | <i>Matricaria perforata</i> , <i>Centaurea cyanus</i> , <i>Fallopia convolvulus</i>  |
| 1052                 | more                     | <i>Digitaria</i>   |
| 1053                 | as usual                 | <i>Chenopodium album</i> , Barley volunteers   |
| 1054                 | as usual                 | <i>Fallopia convolvulus</i> , <i>Matricaria perforata</i>  |

Table A.23: Herbicides

| Nr. of Questionnaire | Herbicide | Date       | Quantity [kg/ha] or [l/ha] |
|----------------------|-----------|------------|----------------------------|
| 1050                 | Boxer     | 25.05.2011 | 4.00                       |
|                      | Sencor WG | 25.05.2011 | 0.40                       |
| 1051                 | Sencor WG | 31.05.2011 | 0.25                       |
|                      | Fenix     | 31.05.2011 | 1.30                       |
| 1052                 | Sencor WG | 30.06.2011 | 0.50                       |
|                      | Titus     | 30.06.2011 | 0.04                       |
|                      | Titus     | 28.07.2011 | 0.03                       |
|                      | Titus     | 04.08.2011 | 0.03                       |
| 1053                 | Sencor WG | 27.06.2011 | 0.50                       |
|                      | Titus     | 04.07.2011 | 0.04                       |
| 1054                 | Sencor WG | 03.06.2011 | 0.45                       |

Table A.24: Characterization of success of weed control

| <b>Nr. of Questionnaire</b> | <b>Characterization of success of weed control</b> | <b>Specification of characterization</b> |
|-----------------------------|--|--|
| 1050                        | as usual   | -  |
| 1051                        | as usual   | -  |
| 1052                        | as usual   | -  |
| 1053                        | as usual   | -  |
| 1054                        | as usual   | -  |

### A.3.6 Occurrence of Pests / Treatment

Table A.25: Pest occurrence in Amflora, pest susceptibility of Amflora and pests that occurred

| <b>Nr. of Questionnaire</b> | <b>Pest occurrence in Amflora</b> | <b>Pest susceptibility of Amflora</b> | <b>Pests that occurred</b> |
|-----------------------------|-----------------------------------|---------------------------------------|----------------------------|
| 1050                        | as usual                          | as usual                              | Aphids                     |
| 1051                        | as usual                          | as usual                              | Aphids                     |
| 1052                        | as usual                          | as usual                              | Aphids                     |
| 1053                        | as usual                          | as usual                              | Aphids                     |
| 1054                        | as usual                          | as usual                              | Aphids                     |



Table A.26: Insecticides

| <b>Nr. of Questionnaire</b> | <b>Insecticide</b> | <b>Date</b> | <b>Quantity [kg/ha] or [l/ha]</b> |
|-----------------------------|--------------------|-------------|-----------------------------------|
| 1050                        | Sumicidin alpha    | 29.05.2011  | 0.30                              |
|                             | Biscaya            | 31.05.2011  | 0.30                              |
|                             | Karate Zeon        | 04.06.2011  | 0.08                              |
|                             | Dantop             | 07.06.2011  | 0.15                              |
|                             | Tepikki            | 11.06.2011  | 0.16                              |
|                             | Actara             | 15.06.2011  | 0.10                              |
|                             | Pirimor            | 15.06.2011  | 0.45                              |
|                             | Sumicidin alpha    | 20.06.2011  | 0.30                              |
|                             | Biscaya            | 23.06.2011  | 0.30                              |
|                             | Karate Zeon        | 27.06.2011  | 0.08                              |
|                             | Pirimor            | 27.06.2011  | 0.40                              |
|                             | Dantop             | 01.07.2011  | 0.15                              |
|                             | Plenum 50 WG       | 05.07.2011  | 0.30                              |
|                             | Actara             | 09.07.2011  | 0.10                              |
|                             | Pirimor            | 09.07.2011  | 0.40                              |
|                             | Tepikki            | 17.07.2011  | 0.16                              |
|                             | Sumicidin alpha    | 17.07.2011  | 0.30                              |
|                             | Actara             | 21.07.2011  | 0.10                              |
|                             | Pirimor            | 21.07.2011  | 0.40                              |
|                             | Mospilan SG        | 25.07.2011  | 0.25                              |
| Plenum 50 WG                | 29.07.2011         | 0.30        |                                   |
| Actara                      | 03.08.2011         | 0.10        |                                   |
| Sumicidin alpha             | 05.08.2011         | 0.30        |                                   |
| 1051                        | Oil                | 13.06.2011  | 5.00                              |
|                             | Sumicidin alpha    | 13.06.2011  | 0.20                              |
|                             | Oil                | 22.06.2011  | 5.00                              |
|                             | Mavrik             | 22.06.2011  | 0.20                              |
|                             | Oil                | 29.06.2011  | 6.00                              |
|                             | Mavrik             | 29.06.2011  | 0.25                              |
|                             | Oil                | 07.07.2011  | 7.00                              |
|                             | Mavrik             | 07.07.2011  | 0.25                              |
|                             | Oil                | 16.07.2011  | 7.00                              |
|                             | Pirimor            | 16.07.2011  | 0.3                               |
|                             | Oil                | 22.07.2011  | 7.00                              |
|                             | Sumicidin alpha    | 22.07.2011  | 0.25                              |
|                             | Oil                | 28.07.2011  | 7.00                              |
|                             | Sumicidin alpha    | 28.07.2011  | 0.25                              |

| <b>Nr. of<br/>Ques-<br/>tionnaire</b> | <b>Insecticide</b> | <b>Date</b> | <b>Quantity<br/>[kg/ha] or<br/>[l/ha]</b> |
|---------------------------------------|--------------------|-------------|---|
|                                       | Oil                | 04.08.2011  | 7.00                                      |
|                                       | Sumicidin alpha    | 04.08.2011  | 0.25                                      |
|                                       | Sumicidin alpha    | 23.08.2011  | 0.25                                      |
| 1052                                  | Oil                | 16.07.2011  | 5.00                                      |
|                                       | Sumicidin alpha    | 16.07.2011  | 0.25                                      |
|                                       | Oil                | 28.07.2011  | 6.00                                      |
|                                       | Sumicidin alpha    | 28.07.2011  | 0.25                                      |
|                                       | Oil                | 04.08.2011  | 6.00                                      |
|                                       | Sumicidin alpha    | 04.08.2011  | 0.25                                      |
|                                       | Oil                | 15.08.2011  | 6.00                                      |
|                                       | Sumicidin alpha    | 15.08.2011  | 0.25                                      |
|                                       | Oil                | 24.08.2011  | 6.00                                      |
|                                       | Sumicidin alpha    | 24.08.2011  | 0.25                                      |
| 1053                                  | Biscaya            | 11.07.2011  | 0.30                                      |
|                                       | Oil                | 11.07.2011  | 5.00                                      |
|                                       | Beta-Baytroid      | 25.07.2011  | 0.40                                      |
|                                       | Oil                | 25.07.2011  | 5.00                                      |
|                                       | Beta-Baytroid      | 05.08.2011  | 0.40                                      |
|                                       | Oil                | 05.08.2011  | 5.00                                      |
|                                       | Beta-Baytroid      | 16.08.2011  | 0.40                                      |
|                                       | Oil                | 16.08.2011  | 5.00                                      |
| 1054                                  | Oil                | 16.06.2011  | 4.00                                      |
|                                       | Sumicidin alpha    | 16.06.2011  | 0.26                                      |
|                                       | Oil                | 22.06.2011  | 5.00                                      |
|                                       | Mospilan SG        | 22.06.2011  | 0.15                                      |
|                                       | Oil                | 29.06.2011  | 6.00                                      |
|                                       | Mavrik             | 29.06.2011  | 0.25                                      |
|                                       | Oil                | 06.07.2011  | 6.00                                      |
|                                       | Mavrik             | 06.07.2011  | 0.25                                      |
|                                       | Sumicidin alpha    | 11.07.2011  | 0.26                                      |
|                                       | Oil                | 14.07.2011  | 6.00                                      |
|                                       | Sumicidin alpha    | 14.07.2011  | 0.26                                      |
|                                       | Oil                | 20.07.2011  | 7.00                                      |
|                                       | Mospilan SG        | 20.07.2011  | 0.18                                      |
|                                       | Oil                | 26.07.2011  | 7.00                                      |
|                                       | Mospilan SG        | 26.07.2011  | 0.18                                      |
|                                       | Oil                | 02.08.2011  | 7.00                                      |
|                                       | Mavrik             | 02.08.2011  | 0.25                                      |

Table A.27: Characterization of success of pest control

| <b>Nr. of Questionnaire</b> | <b>Characterization of success of pest control</b> |
|-----------------------------|--|
| 1050                        | as usual   |
| 1051                        | as usual   |
| 1052                        | as usual   |
| 1053                        | as usual   |
| 1054                        | as usual   |

### A.3.7 Occurrence of Disease / Treatment

Table A.28: Disease occurrence in Amflora and disease susceptibility of Amflora

| <b>Nr. of Questionnaire</b> | <b>Disease occurrence in Amflora</b> | <b>Disease susceptibility of Amflora</b> |
|-----------------------------|--------------------------------------|--|
| 1050                        | as usual                             | as usual                                 |
| 1051                        | as usual                             | as usual                                 |
| 1052                        | as usual                             | as usual                                 |
| 1053                        | as usual                             | as usual                                 |
| 1054                        | as usual                             | as usual                                 |

#### A.3.7.1 Late blight

Table A.29: Late blight pressure in Amflora and used fungicides

| <b>Nr. of Questionnaire</b> | <b>Late blight pressure in Amflora</b> | <b>Fungicide</b> | <b>Date</b> | <b>Quantity [kg]</b> |
|-----------------------------|--|------------------|-------------|----------------------|
| 1050                        | as usual                               | Epoc             | 20.06.2011  | 0.4                  |
|                             |  | Vondac DG        | 20.06.2011  | 1.2                  |
|                             |  | Infinito         | 27.06.2011  | 1.6                  |

| Nr. of Questionnaire | Late blight pressure in Amflora | Fungicide  | Date       | Quantity [kg] |
|----------------------|---------------------------------|------------|------------|---------------|
|                      |                                 | Shirlan    | 27.06.2011 | 0.4           |
|                      |                                 | Fantic     | 01.07.2011 | 2.5           |
|                      |                                 | Orvego Duo | 06.07.2011 | 2.5           |
|                      |                                 | Signum     | 06.07.2011 | 0.3           |
|                      |                                 | Ranman     | 11.07.2011 | 0.2           |
|                      |                                 | Vondac DG  | 11.07.2011 | 1.2           |
|                      |                                 | Infinito   | 16.07.2011 | 1.5           |
|                      |                                 | Shirlan    | 16.07.2011 | 0.4           |
|                      |                                 | Orvego Duo | 21.07.2011 | 2.5           |
|                      |                                 | Ranman     | 25.07.2011 | 0.2           |
|                      |                                 | Vondac DG  | 25.07.2011 | 1.2           |
|                      |                                 | Ranman     | 29.07.2011 | 0.2           |
|                      |                                 | Shirlan    | 03.08.2011 | 0.4           |
| 1051                 | as usual                        | Revus      | 22.06.2011 | 0.6           |
|                      |                                 | Tattoo     | 29.06.2011 | 2.0           |
|                      |                                 | Ranman     | 07.07.2011 | 0.2           |
|                      |                                 | Ranman     | 16.07.2011 | 0.2           |
|                      |                                 | Ranman     | 22.07.2011 | 0.2           |
|                      |                                 | Revus      | 28.07.2011 | 0.6           |
|                      |                                 | Ranman     | 04.08.2011 | 0.2           |
| 1052                 | as usual                        | Ranman     | 16.07.2011 | 0.2           |
|                      |                                 | Ranman     | 28.07.2011 | 0.2           |
|                      |                                 | Ranman     | 04.08.2011 | 0.2           |
|                      |                                 | Ranman     | 15.08.2011 | 0.2           |
|                      |                                 | Ranman     | 24.08.2011 | 0.2           |
| 1053                 | as usual                        | Tattoo     | 11.07.2011 | 4.0           |
|                      |                                 | Tattoo     | 25.07.2011 | 2.0           |
|                      |                                 | Ranman     | 05.08.2011 | 0.2           |
|                      |                                 | Ranman     | 16.08.2011 | 0.2           |
| 1054                 | as usual                        | Tattoo     | 22.06.2011 | 2.0           |
|                      |                                 | Tattoo     | 29.06.2011 | 2.0           |
|                      |                                 | Ranman     | 06.07.2011 | 0.2           |
|                      |                                 | Epoc       | 11.07.2011 | 0.5           |
|                      |                                 | Tattoo     | 14.07.2011 | 2.0           |
|                      |                                 | Ranman     | 20.07.2011 | 0.2           |
|                      |                                 | Ranman     | 26.07.2011 | 0.2           |
|                      |                                 | Ranman     | 02.08.2011 | 0.2           |

Table A.30: Characterization of success of late blight control

| Nr. of Questionnaire | Characterization of success of control measures for late blight | Specification of characterization |
|----------------------|---|-----------------------------------|
| 1050                 | as usual  | -                                 |
| 1051                 | as usual  | -                                 |
| 1052                 | as usual  | -                                 |
| 1053                 | as usual  | -                                 |
| 1054                 | as usual  | -                                 |

## A.3.7.2 Other diseases

Table A.31: Fungicides

| Nr. of Questionnaire          | Disease                          | Measure                          | Date       |
|-------------------------------|----------------------------------|----------------------------------|------------|
| 1050                          | Rhizoctonia solani (black scurf) | screening (4 times)              | 14.06.2011 |
|                               |                                  |                                  | 23.06.2011 |
|                               |                                  |                                  | 06.07.2011 |
|                               |                                  |                                  | 19.07.2011 |
|                               | Blackleg, stem canker            | screening (4 times)              | 14.06.2011 |
|                               |                                  |                                  | 23.06.2011 |
|                               |                                  |                                  | 06.07.2011 |
|                               |                                  |                                  | 19.07.2011 |
|                               | Potato virus Y (PVY)             | screening (4 times)              | 14.06.2011 |
|                               |                                  |                                  | 23.06.2011 |
|                               |                                  |                                  | 06.07.2011 |
|                               |                                  |                                  | 19.07.2011 |
| Potato leaf roll virus (PLRV) | screening (4 times)              | 14.06.2011                       |            |
|                               |                                  | 23.06.2011                       |            |
|                               |                                  | 06.07.2011                       |            |
|                               |                                  | 19.07.2011                       |            |
| 1051                          | Rhizoctonia solani (black scurf) | Monceren seed treatment 1.8 l/ha | 08.05.2011 |
|                               | Blackleg, stem canker            | Monceren seed treatment 1.8 l/ha | 08.05.2011 |
|                               |                                  | Pulled up some plants (3 times)  | 29.06.2011 |

| Nr. of Questionnaire | Disease   | Measure  | Date   |
|----------------------|---|--|--|
|                      | Potato virus Y (PVY)  | Pulled up virus plants (4 times)   | 04.07.2011<br>11.07.2011<br>29.06.2011<br>04.07.2011<br>11.07.2011<br>13.07.2011 |
| 1052                 | Potato virus Y (PVY)  | Pulled out sick plants (3 times)   | 07.07.2011<br>14.07.2011<br>29.07.2011   |
| 1053                 | Rhizoctonia solani (black scurf)<br>Blackleg, stem canker<br>Potato virus Y (PVY) | Maxim seed treatment<br>Maxim seed treatment<br>Pulling out sick plants<br>Pulling out sick plants | 09.06.2011<br>09.06.2011<br>28.07.2011<br>28.07.2011                             |
| 1054                 | Rhizoctonia solani (black scurf)<br>Blackleg, stem canker<br>Potato virus Y (PVY) | Maxim seed treatment<br>Maxim seed treatment<br>Pulling out plants (3 times)                       | 07.05.2011<br>07.05.2011<br>11.07.2011<br>13.07.2011<br>20.07.2011               |

Table A.32: Characterization of success of control measures for other diseases

| Nr. of Questionnaire | Characterization of success of control measures for other diseases | Specification of characterization |
|----------------------|--|-----------------------------------|
| 1050                 | as usual   | -                                 |
| 1051                 | as usual   | -                                 |
| 1052                 | as usual   | -                                 |
| 1053                 | as usual   | -                                 |
| 1054                 | as usual   | -                                 |

### A.3.8 Use of herbicides for haulm killing

Table A.33: Use of herbicides for haulm killing

| Nr. of Questionnaire | Haulm killing by                          | Used herbicides    |
|----------------------|---|--------------------|
| 1050                 | both methods                              | Reglone, Shark     |
| 1051                 | chemical measures only, use of herbicides | Reglone, Spotlight |
| 1052                 | chemical measures only, use of herbicides | Reglone, Spotlight |
| 1053                 | chemical measures only, use of herbicides | Reglone, Spotlight |
| 1054                 | chemical measures only, use of herbicides | Reglone, Spotlight |

### A.3.9 Harvest

Table A.34: Harvest

| Nr. of Questionnaire | Harvest from | Harvest till | Yield [t/ha] |
|----------------------|--------------|--------------|--------------|
| 1050                 | 31.08.2011   | 01.09.2011   | 31.02        |
| 1051                 | 17.09.2011   | 25.09.2011   | 24.00        |
| 1052                 | 30.09.2011   | 02.10.2011   | 8.00         |
| 1053                 | 16.09.2011   | 19.09.2011   | 22.50        |
| 1054                 | 27.09.2011   | 30.09.2011   | 26.00        |

Table A.35: Characterization of maturity

| <b>Nr. of Questionnaire</b> | <b>Characterization of maturity</b> | <b>Specification of characterization</b> |
|-----------------------------|-------------------------------------|--|
| 1050                        | as usual                            | -  |
| 1051                        | as usual                            | -  |
| 1052                        | as usual                            | -  |
| 1053                        | as usual                            | -  |
| 1054                        | as usual                            | -  |

Table A.36: Characterization of date of harvest

| <b>Nr. of Questionnaire</b> | <b>Characterization of date of harvest</b> | <b>Specification of characterization</b>                 |
|-----------------------------|--|--|
| 1050                        | as usual                                   | -  |
| 1051                        | as usual                                   | -  |
| 1052                        | delayed                                    | Much rain before harvest                                 |
| 1053                        | as usual                                   | -  |
| 1054                        | delayed                                    | Harvest was delayed because of a lot of rain this season |

Table A.37: Characterization of yield

| <b>Nr. of Questionnaire</b> | <b>Characterization of yield</b> | <b>Specification of characterization</b>                                  |
|-----------------------------|----------------------------------|---|
| 1050                        | as usual                         | -   |
| 1051                        | less                             | Much rain before and under harvest, wet spots in the field had to be left |
| 1052                        | less                             | Minitubers and wet spots reduced the harvest amount                       |
| 1053                        | as usual                         | -   |
| 1054                        | as usual                         | -   |



## A.4 Presence of wild animals

Table A.38: Presence of wild animals (mammals, birds, insects)

| Nr. of Questionnaire | Presence of wild animals |
|----------------------|--------------------------|
| 1020                 | as usual                 |
| 1021                 | as usual                 |
| 1022                 | as usual                 |
| 1023                 | as usual                 |
| 1024                 | as usual                 |