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EU-Beurteilungsbericht Azoxystrobin
Rechtliche Regelungen der Europäischen Union zu Pflanzenschutzmitteln und deren Wirkstoffen Band D 4

Review Report Azoxystrobin
Legal Regulations of the European Union
for Plant Protection Products and their Active Substances
Volume D 4

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Vorwort

Für neue Wirkstoffe werden die EU-Mitgliedstaaten in den Richtlinien zur Aufnahme der Wirkstoffe in Anhang I verpflichtet, den nach Abschluss aller Prüfungen erstellten Beurteilungsbericht (Review Report) mit allen Anlagen (mit Ausnahme von vertraulichen Informationen im Sinne von Artikel 14 der Richtlinie 91/414/EWG) allen Interessierten zur Verfügung zu stellen oder auf besonderen Antrag zugänglich zu machen. Für alte Wirkstoffe ergibt sich diese Verpflichtung für die Mitgliedstaaten bereits aus Artikel 7 Absatz 6 Unterabsatz 2 der Verordnung (EWG) Nr. 3600/92.

Die Mitgliedstaaten und die Europäische Kommission haben vereinbart, dass die Beurteilungsberichte, einschließlich der zum Teil sehr umfangreichen Hintergrunddokumente, vorzugsweise beim berichterstattenden Mitgliedstaat angefordert oder eingesehen werden sollen.

Die Biologische Bundesanstalt stellt die Beurteilungsberichte als Berichte aus der Biologischen Bundesanstalt für Land- und Forstwirtschaft als Band D in der Reihe "Rechtliche Regelungen der Europäischen Union zu Pflanzenschutzmitteln und deren Wirkstoffen" über den Saphir Verlag gegen Erstattung der Unkosten zur Verfügung. Das vorliegende 4. Heft dieser Reihe (Band D 4) enthält nicht die Hintergrunddokumente A, B und C des Beurteilungsberichtes. Diese können bei Bedarf bei der BBA eingesehen oder für die Wirkstoffe, für die Deutschland Berichterstatter ist, ebenfalls beim Saphir Verlag gegen Erstattung der Unkosten bezogen werden. Für Azoxystrobin war Deutschland Berichterstatter.

In der Reihe "Rechtliche Regelungen der Europäischen Union zu Pflanzenschutzmitteln und deren Wirkstoffen" sind bisher erschienen:

Heft	**Rechtliche Regelungen der Europäischen Union zu Pflanzenschutzmitteln und deren Wirkstoffen**
35/97	Band A: Richtlinie 91/414/EWG und diesbezügliche Protokolle (3. Auflage, Stand: 01. November 1997)
36/97	Band B: Richtlinien, Verordnungen, Entscheidungen und Protokolle zur Wirkstoffprüfung (3. Auflage, Stand 01. November 1997)
	Band C: *Wird zur Zeit bearbeitet*

Preface

According to the Directives for the inclusion of active substances in Annex I with regard to new active substances, EU-Member States are obliged to keep available or make available on special request the review report which is prepared after completion of all evaluations including its appendices (excluding confidential information, in accordance with article 14 of Directive 91/414/EEC) to all interested parties. For existing active substance this obligation for Member States already arises from article 7 (6) subparagraph 2 of Regulation (EEC) No 3600/92.

Member States and the European Commission agreed that requests of review reports including their background documents which are partly very voluminous, shall preferably be addressed to the Rapporteur Member State.

The Federal Biological Research Centre makes available review reports as reports from the Federal Biological Research Centre for Agriculture and Forestry, Volume D of the series "Legal Regulations of the European Union for Plant Protection Products and their Active Substances" via Saphir Verlag against reimbursement of expenses. The present 4th report belonging to this series (Volume D 4) does not include background documents A, B and C of the review report. If the need arises, their inspection at the BBA is possible or they may be also obtained from Saphir Verlag against reimbursement of expenses, however, only for active substances with Germany as Rapporteur Member State. For azoxystrobin Germany acted as Rapporteur Member State.

In the series Legal Regulations of the European Union for Plant Protection Products and their Active Substances the following Reports have been published:

Report	**Legal Regulations of the European Union for Plant Protection Products and their Active Substances**
35/97	Volume A: Directive 91/414/EEC and respective Protocols (3rd Edition, date: 1 November 1997)
36/97	Volume B: Directives, Regulations, Decisions and Protocols regarding the Evaluation of Active Substances (3rd Edition, date: 1 November 1997)
	Volume C: *In Progress*

RICHTLINIE 98/47/EG DER KOMMISSION

vom 25. Juni 1998

zur Aufnahme des Wirkstoffs Azoxystrobin in Anhang I der Richtlinie 91/414/EWG des Rates über das Inverkehrbringen von Pflanzenschutzmitteln

(Text von Bedeutung für den EWR)

DIE KOMMISSION DER EUROPÄISCHEN GEMEINSCHAFTEN —

gestützt auf den Vertrag zur Gründung der Europäischen Gemeinschaft,

gestützt auf die Richtlinie 91/414/EWG des Rates vom 15. Juli 1991 über das Inverkehrbringen von Pflanzenschutzmitteln (1), zuletzt geändert durch die Richtlinie 97/73/EG der Kommission (2), im folgenden „die Richtlinie" genannt, insbesondere auf Artikel 6 Absatz 3,

in Erwägung nachstehender Gründe:

Die deutschen Behörden haben am 15. September 1995 gemäß Artikel 6 Absatz 2 der Richtlinie 91/414/EWG einen Antrag von Zeneca Agrochemicals, im folgenden „der Antragsteller" genannt, auf Aufnahme des Wirkstoffs Azoxystrobin in Anhang I der Richtlinie erhalten.

Gemäß Artikel 6 Absatz 3 der Richtlinie hat die Kommission in ihrer Entscheidung 96/523/EG (3) bestätigt, daß die eingereichten Unterlagen grundsätzlich die an die Daten und Informationen gestellten Anforderungen des Anhangs II bzw. für ein Pflanzenschutzmittel, das diesen Wirkstoff enthält, diejenigen des Anhangs III der Richtlinie erfüllen.

Gemäß Artikel 5 Absatz 1 der Richtlinie ist ein Wirkstoff für einem Zeitraum von höchstens 10 Jahren in Anhang I aufzunehmen, wenn angenommen werden kann, daß keine schädlichen Auswirkungen auf die Gesundheit von Mensch und Tier oder auf das Grundwasser bzw. keine unannehmbaren Auswirkungen auf die Umwelt eintreten werden.

Die Auswirkungen von Azoxystrobin auf die menschliche Gesundheit und auf die Umwelt wurden gemäß Artikel 6 Absätze 2 und 4 der Richtlinie für die von dem Antragsteller vorgeschlagenen Anwendungen geprüft. In seiner Funktion als Bericht erstattender Mitgliedstaat hat Deutschland der Kommission am 5. Februar 1997 den betreffenden Bewertungsbericht übermittelt.

Der vorgelegte Bewertungsbericht wurde von den Mitgliedstaaten und der Kommission im Ramen des Ständigen Ausschusses für Pflanzenschutz geprüft. Diese Prüfung wurde am 22. April 1998 im Format des Prüfungsberichts der Kommission für Azoxystrobin abgeschlossen. Der Bericht muß möglicherweise unter Berücksichtigung technischer und wissenschaftlicher Entwicklungen aktualisiert werden. In diesem Fall sind auch die Bedingungen für die Aufnahme von Azoxystrobin in Anhang I der Richtlinie 91/414/EWG gemäß deren Artikel 6 Absatz 1 zu ändern.

Die Prüfungsunterlagen und -informationen sind dem Wissenschaftlichen Pflanzenausschuß zur Stellungnahme vorgelegt worden.

Die Bewertungen haben ergeben, daß davon ausgegangen werden kann, daß den betreffenden Wirkstoff enthaltende Pflanzenschutzmittel im allgemeinen die Anforderungen gemäß Artikel 5 Absatz 1 Buchstaben a) und b) und Absatz 3 der Richtlinie erfüllen, insbesondere hinsichtlich der geprüften Anwendungen. Daher muß der betroffene Wirkstoff in Anhang I aufgenommen werden, damit sichergestellt ist, daß die Zulassung von den betreffenden Wirkstoff enthaltenden Pflanzenschutzmitteln in allen Mitgliedstaaten gemäß den Bestimmungen der Richtlinie gewährt werden kann.

Nach der Aufnahme ist den Mitgliedstaaten eine angemessene Frist einzuräumen, um die Bestimmungen der Richtlinie 91/414/EWG über azoxystrobinhaltige Pflanzenschutzmittel umzusetzen und insbesondere innerhalb dieser Frist bereits bestehende vorläufige Zulassungen zu überprüfen bzw. vor Ablauf der Frist neue Zulassungen gemäß der Richtlinie zu erteilen. Eine längere Frist kann auch für Pflanzenschutzmittel erforderlich sein, die Azoxystrobin und andere in Anhang I aufgeführte Wirkstoffe enthalten.

Es ist vorzuschreiben, daß die Mitgliedstaaten den endgültigen Prüfungsbericht (mit Ausnahme von vertraulichen Informationen im Sinne des Artikels 14 der Richtlinie) allen Betroffenen zur Verfügung stellen oder zugänglich machen.

Der Prüfungsbericht ist erforderlich für die ordnungsgemäße Umsetzung bestimmter Teile der einheitlichen Grundsätze gemäß Anhang VI der Richtlinie durch die Mitgliedstaaten, soweit sich diese Grundsätze auf die Bewertung der Angaben nach Anhang II beziehen, die zwecks Aufnahme des Wirkstoffs in Anhang I der Richtlinie vorgelegt wurden.

Die in dieser Richtlinie vorgesehenen Maßnahmen entsprechen der Stellungnahme des Ständigen Ausschussen für Pflanzenschutz —

(1) ABl. L 230 vom 19. 8. 1991, S. 1.
(2) ABl. L 353 vom 24. 12. 1997, S. 26.
(3) ABl. L 220 vom 30. 8. 1996, S. 25.

HAT FOLGENDE RICHTLINIE ERLASSEN:

Artikel 1

Azoxystrobin wird hiermit gemäß dem Anhang der vorliegenden Richtlinie als Wirkstoff in Anhang I der Richtlinie 91/414/EWG aufgenommen.

Artikel 2

(1) Die Mitgliedstaaten erlassen die erforderlichen Rechts- und Verwaltungsvorschriften, um dieser Richtlinie bis spätestens 1. Januar 1999 nachzukommen.

(2) Bei Pflanzenschutzmitteln, die Azoxystrobin zusammen mit einem anderen in Anhang I der Richtlinie 91/414/EWG aufgeführten Wirkstoff enthalten, wird die Frist gemäß Absatz 1 jedoch so weit verlängert, daß die Vorschriften der Richtlinie bezüglich der Aufnahme dieses anderen Wirkstoffs in Anhang I der Richtlinie 91/414/EWG eine längere Umsetzungsfrist vorsehen.

(3) Die Mitgliedstaaten stellen den Prüfungsbericht (mit Ausnahme von vertraulichen Informationen im Sinne des Artikels 14 der Richtlinie) allen Betroffenen zur Einsicht zur Verfügung oder machen ihn gegebenenfalls auf besonderen Antrag zugänglich.

(4) Wenn die Mitgliedstaaten diese Vorschriften erlassen, nehmen sie in den Vorschriften selbst oder durch einen Hinweis bei der amtlichen Veröffentlichung auf diese Richtlinie Bezug. Die Mitgliedstaaten legen die Einzelheiten dieser Bezugnahme fest.

Artikel 3

Diese Richtlinie tritt am 1. Juli 1998 in Kraft.

Artikel 4

Diese Richtlinie ist an die Mitgliedstaaten gerichtet.

Brüssel, den 25. Juni 1998

Für die Kommission

Franz FISCHLER

Mitglied der Kommission

ANHANG

AZOXYSTROBIN

1. Identität

   (IUPAC) Methyl-(E)-2-{2[6-(2-cyanophenoxy)-pyrimidin-4-yloxy]phenyl}-3-methoxyacrylat

2. Insbesondere zu erfüllende Bedingungen:

2.1. Der Wirkstoff muß eine Reinheit von mindestens 930 g/kg (Z Isomer max. 25 g/kg) aufweisen.

2.2. Nur Anwendungen als Fungizid dürfen zugelassen werden.

Es ist besonders auf die Auswirkungen auf Wasserorganismen zu achten. Die Zulassungsbedingungen sollten geeignete Maßnahmen zur Senkung des Risikos umfassen.

2.3. Bei der Anwendung der einheitlichen Grundsätze gemäß Anhang VI sind die Schlußfolgerungen des vom Ständigen Ausschuß für Pflanzenschutz am 22. April 1988 abgeschlossenen Prüfungsberichts über Azoxystrobin und insbesondere dessen Anhänge I und II zu berücksichtigen.

3. Aufnahme befristet bis: 1. Juli 2008.

BERICHTIGUNGEN

Berichtigung der Richtlinie 98/47/EG der Kommission vom 25. Juni 1998 zur Aufnahme des Wirkstoffs Azoxystrobin in Anhang I der Richtlinie 91/414/EWG des Rates über das Inverkehrbringen von Pflanzenschutzmitteln

(Amtsblatt der Europäischen Gemeinschaften L 191 vom 7. Juli 1998)

Seite 52, Anhang, Punkt 2.3:

anstatt: „22. April 1988"
muß es heißen: „22. April 1998".

COMMISSION DIRECTIVE 98/47/EC

of 25 June 1998

including an active substance (azoxystrobin) in Annex I to Council Directive 91/414/EEC concerning the placing of plant protection products on the market

(Text with EEA relevance)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market [1], as last amended by Commission Directive 97/73/EC [2], hereafter referred to as 'the Directive', and in particular Article 6(3) thereof,

Whereas in accordance with Article 6(2) of Directive 91/414/EEC, Germany received on 15 September 1995 an application from Zeneca Agrochemicals, hereafter referred to as 'the applicant', for the inclusion of the active substance azoxystrobin in Annex I to the Directive;

Whereas in accordance with the provisions of Article 6(3) of the Directive the Commission confirmed in its Decision 96/523/EC [3] that the dossier submitted for azoxystrobin could be considered as satisfying, in principle, the data and information requirements of Annex II and for a plant protection product containing this active substance, of Annex III to the Directive;

Whereas, in accordance with Article 5(1) of the Directive, an active substance should be included for a period not exceeding 10 years in Annex I when it may be expected that there will not be any harmful effects on human or animal health or on groundwater or any unacceptable influence on the environment;

Whereas for azoxystrobin, the effects on human health and the environment have been assessed, in accordance with the provisions of Article 6(2) and (4) of the Directive, for the uses proposed by the applicant; whereas Germany acting as nominated rapporteur Member State, has submitted to the Commission on 5 February 1997 the assessment report concerned;

Whereas the submitted report has been reviewed by the Member States and the Commission within the Standing Committee on Plant Health; whereas this review has been finalised on 22 April 1998 in the format of the Commission review report for azoxystrobin; whereas it may be necessary to update this report to take account of technical and scientific developments; whereas in such case the conditions for the inclusion of azoxystrobin in Annex I to Directive 91/414/EEC will also need to be amended pursuant to Article 6(1) of that Directive;

Whereas the dossier and the information from the review have also been submitted to the Scientific Committee for Plants for consultation;

Whereas it has appeared from the assessments made that plant protection products containing the active substance concerned may be expected to satisfy in general the requirements laid down in Article 5(1)(a), (b) and (3) of the Directive, in particular with regard to the uses which were examined; whereas therefore it is necessary to include the active substance concerned in Annex I, in order to ensure that in all Member States the authorisations of plant protection products containing the active substance concerned can be granted in accordance with the provisions of the Directive;

Whereas after inclusion a reasonable period is necessary to permit Member States to implement the provisions of Directive 91/414/EEC on plant protection products containing azoxystrobin and in particular to review, within this period, existing provisional authorisations or to grant, by the end of this period at the latest, new authorisations in accordance with the provisions of the Directive; whereas a longer period may also be required for plant protection products containing azoxystrobin and other active substances included in Annex I;

Whereas it is appropriate to provide that the finalised review report (except for confidential information in the meaning of Article 14 of the Directive) is kept available or made available by the Member States for consultation by any interested parties;

Whereas the review report is required for the proper implementation by the Member States, of several sections of the uniform principles laid down in Annex VI to the Directive, where these principles refer to the evaluation of the Annex II data which were submitted for the purpose of the inclusion of the active substance in Annex I to the Directive;

Whereas the measures provided for in this Directive are in accordance with the opinion of the Standing Committee on Plant Health,

[1] OJ L 230, 19. 8. 1991, p. 1.
[2] OJ L 353, 24. 12. 1997, p. 26.
[3] OJ L 220, 30. 8. 1996, p. 25.

HAS ADOPTED THIS DIRECTIVE:

Article 1

Azoxystrobin is hereby designated as an active substance in Annex I to Directive 91/414/EEC, as set out in the Annex hereto.

Article 2

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive, at the latest by 1 January 1999.

2. However for plant protection products containing azoxystrobin together with another active substance included in Annex I to Directive 91/414/EEC, the period referred to in paragraph 1 is extended to the extent that a longer implementation period is provided for by the provisions laid down in the Directive concerning the inclusion of this other active substance in Annex I to Directive 91/414/EEC.

3. Member States shall keep available the review report (except for confidential information in the meaning of Article 14 of the Directive) for consultation by any interested parties or shall make it available to them on specific request.

4. When Member States adopt the measures, these shall contain a reference to this Directive or shall be accompanied by such reference at the time of their official publication. The procedure for such reference shall be laid down by the Member States.

Article 3

This Directive shall enter into force on 1 July 1998.

Article 4

This Directive is addressed to the Member States.

Done at Brussels, 25 June 1998.

For the Commission
Franz FISCHLER
Member of the Commission

ANNEX

AZOXYSTROBIN

1. Identity

   (IUPAC) Methyl (E)-2-{2[6-(2-cyanophenoxy) pyrimidin-4-yloxy]phenyl}-3-methoxyacrylate

2. Particular conditions to be fulfilled:

2.1. The active substance shall have a minimum purity of 930 g/kg (Z isomer maximim 25 g/kg)

2.2. Only uses as fungicide may be authorised.

   Particular attention should be given to the impact on aquatic organisms. Authorisation conditions should include appropriate risk mitigation measures.

2.3. For the implementation of the uniform principles of Annex VI, the conclusions of the review report on azoxystrobin, and in particular Appendixes I and II thereof, as finalised in the Standing Committee on Plant Health on 22 April 1998 shall be taken into account.

3. Expiry date of the inclusion: 1 July 2008.

European Commission
Directorate General for Agriculture
DG VI-B.II-1

azoxystrobin
7581/VI/97-Rev.5
22 April 1998

Review report for the active substance **azoxystrobin**

Finalised in the Standing Committee on Plant Health at its meeting on 22.4.1998 in view of the inclusion of azoxystrobin in Annex I of Directive 91/414/EEC.

1. Procedure followed for the evaluation process

This review report has been established as a result of the evaluation of the new active substance azoxystrobin, made in the context of the work provided for in Articles 5 and 6 of Directive 91/414/EEC concerning the placing of plant protection products on the market, with a view to the possible inclusion of this substance in Annex I to the Directive.

In accordance with the provisions of Article 6(2) of Directive 91/414/EEC, the German authorities received on 15 September 1995 an application from Zeneca Agrochemicals, hereafter referred as the applicant, for the inclusion of the active substance azoxystrobin in Annex I to the Directive. The German authorities indicated to the Commission on 22 March 1996 the results of a first examination of the completeness of the dossier, with regard to the data and information requirements provided for in Annex II and, for at least one plant protection product containing the active substance concerned, in Annex III to the Directive. Subsequently, and in accordance with the requirements of Article 6(2), a dossier on azoxystrobin was distributed to the Member States and the Commission.

The Commission referred the dossier to the Standing Committee on Plant Health in the meeting of the working group 'legislation' thereof on 22 April 1996, during which the Member States confirmed the receipt of the dossier.

In accordance with the provisions of Article 6(3), which requires the confirmation at Community level that the dossier is to be considered as satisfying, in principle, the data and information requirements provided for in Annex II and, for at least one plant protection product containing the active substance concerned, in Annex III to the Directive and in accordance with the procedure laid down in Article 20 of the Directive, the Commission confirmed in its Decision 96/523/EC[1] of 29 July 1996 that these requirements were satisfied.

Within the framework of that decision and with a view to the further organisation of the works related to the detailed examination of the dossier provided for in Article 6(2) and (4) of Directive 91/414/EEC, it was agreed between the Member States and the Commission that Germany would, as rapporteur Member State, carry out the detailed examination of the dossier and report the conclusions of its examination accompanied by any recommendations on the inclusion or non-inclusion and any conditions relating thereto, to the Commission as soon as possible and at the latest within a period of one year.

[1] OJ N° L220, 30.08.96, p.25.

Germany submitted to the Commission on 5 February 1997 the report of its detailed scientific examination, hereafter referred to as the monograph, including, as required, a recommendation concerning the possible inclusion of azoxystrobin in Annex I to the Directive.

On receipt of the monograph, the Commission forwarded it for consultation to all the Member States as well as to Zeneca Agrochemicals being the sole applicant on 11 February 1997.

The Commission organised further an intensive consultation of specialised scientific experts from a representative number of Member States, to review the monograph and the comments received thereon (peer review), in particular on each of the following disciplines:

- identity and physical /chemical properties ;
- fate and behaviour in the environment ;
- ecotoxicology ;
- mammalian toxicology ;
- residues and analytical methods ;
- regulatory questions.

The meetings for this consultation were organised on behalf of the Commission by the Pesticide Safety Directorate (PSD) in York, United Kingdom, from April to June 1997.

The report of the peer review (i.e. full report) was circulated, for further consultation, to Member States and the sole applicant on 30 July 1997.

The dossier, monograph and the peer review report (i.e. full report) including in particular an outline résumé of the remaining technical questions, were referred to the Standing Committee on Plant Health, and specialised working groups of this Committee, for final examination, with participation of experts from the 15 Member States. This final examination took place from September to December 1997, and was finalised in the meeting of the Standing Committee on 22 April 1998.

These documents were also submitted to the Scientific Committee for Plants for a separate independent consultation.

The present review report contains the conclusions of this final examination; given the importance of the monograph, the peer review report (i.e. full report) and the comments and clarifications submitted after the peer review as basic information for the final examination process, these documents are considered respectively as background documents A, B and C to this review report and are part of it.

2. Purposes of this review report

This review report, including the background documents and appendices thereto, have been developed and finalised in support of Directive 98/47/EC including azoxystrobin in Annex I to Directive 91/414/EEC, and to assist the Member States in decisions on individual plant protection products containing azoxystrobin they have to take in accordance with the provisions of that Directive, and in particular the provisions of article 4(1) and the uniform principles laid down in Annex VI.

This review report provides also for the evaluation required under Section A.2.(b) of the above mentioned uniform principles, as well as under several specific sections of part B of these principles. In these sections it is provided that Member States, in evaluating applications and granting authorisations, shall take into account the information concerning the active substance in Annex II of the directive, submitted for the purpose of inclusion of the active substance in Annex I, as well as the result of the evaluation of those data.

In parallel with the provisions of Article 7(6) of Regulation 3600/92 for existing active substances, the Commission and the Member States will keep available or make available this review report for consultation by any interested parties or will make it available to them on their specific request. Moreover the Commission will send a copy of this review report (not including the background documents) to the applicant.

3. Overall conclusion in the context of Directive 91/414/EEC

The overall conclusion from the evaluation is that it may be expected that plant protection products containing azoxystrobin will fulfil the safety requirements laid down in Articles 5(1a), (1b) and (3) of Directive 91/414/EEC. This conclusion is however subject to compliance with the particular requirements in sections 4, 5, 6 and 7 of this report, as well as to the implementation of the provisions of Article 4(1) and the uniform principles laid down in Annex VI of Directive 91/414/EEC, for each plant protection product containing azoxystrobin, for which Member States will grant or review the authorisation.

Furthermore, these conclusions were reached within the framework of the following uses which were proposed and supported by the sole applicant:

-fungicide for use on cereals and vines

Extension of the use pattern beyond those described above will require an evaluation at Member State level in order to establish whether the proposed extensions of use can satisfy the requirements of Article 4(1) and of the uniform principles laid down in Annex VI of Directive 91/414/EEC.

With particular regard to residues, the review has established that the residues arising from the proposed uses, consequent on application consistent with good plant protection practice, have no harmful effects on human or animal health. The Theoretical Maximum Daily Intake (TMDI) for a 60 kg adult is 10 % of

the Acceptable Daily Intake (ADI), based on the FAO/WHO European Diet (August 1994). This low intake value reflects the current limited use pattern for this active substance.

The review has identified acceptable exposure scenarios for operators, workers and bystanders, which require, however, confirmation for each plant protection product in accordance with the relevant sections of the above mentioned uniform principles.

Given the results of the evaluation of the information submitted for ecotoxicology, particular conditions have been provided for as explained in section 6 of this report, which need short term attention from the Member States when granting new authorisations or varying existing provisional authorisations.

4. Identity and Physical/chemical properties

The main identity and the physical/chemical properties of azoxystrobin are given in Appendix I.

The active substance shall have a minimum purity of 930 g/kg (Z isomer maximum 25g/kg) technical product.

The review has established that for the active substance notified by the applicant (Zeneca Agrochemicals), none of the manufacturing impurities considered are, on the basis of information currently available, of toxicological or environmental concern.

5. Endpoints and related information

In order to facilitate Member States, in granting or reviewing authorisations, to apply adequately the provisions of Article 4(1) of Directive 91/414/EEC and the uniform principles laid down in Annex VI of that Directive, the most important endpoints as identified during the evaluation process are listed in Appendix II.

6. Particular conditions to be taken into account on short term basis

On the basis of the proposed and supported uses, the following particular issues have been identified as requiring particular and short term attention from the Member States, in the framework of any authorisations to be granted, varied or withdrawn, as appropriate:

- particular attention should be given to the impact on aquatic organisms. Risk mitigation measures should be applied where appropriate.

7. List of studies to be generated

No further studies were identified which were considered at this stage, and under the current inclusion conditions necessary in relation to the inclusion of azoxystrobin in Annex I.

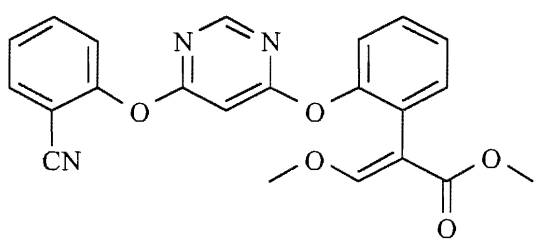
8. Updating of this review report

The technical information in this report may require periodic updating to take account of technical and scientific developments as well as of the results of the examination of any information referred to the Commission in the framework of Articles 7, 10 or 11 of Directive 91/414/EEC. Such adaptations will be examined and finalised in the Standing Committee on Plant Health, in connection with any amendment of the inclusion conditions for azoxystrobin in Annex I of the Directive.

APPENDIX I

Identity, physical and chemical properties

AZOXYSTROBIN

Common name (ISO)	Azoxystrobin
Chemical name (IUPAC)	Methyl (E)-2-{2[6-(2-cyanophenoxy)pyrimidin-4-yloxy] phenyl}-3-methoxyacrylate
Chemical name (CA)	Methyl (E)-2-{2 [6-(2-cyanophenoxy)-4-pyrimidinyl]oxy}-alpha-(methoxymethylene)benzeneacetate (9CI)
CIPAC No	571
CAS No	131860-33-8
EEC No	Not allocated
FAO SPECIFICATION	-
Minimum purity	930g/kg (Z isomer max.25g/kg)
Molecular formula	$C_{22}H_{17}N_3O_5$
Molecular mass	403.4
Structural formula	

Melting point	116 °C (purity: 990 g/kg)
Boiling point	Above 360 °C (from Summary Data Sheet)
Appearance	White crystalline powder, tech. as (962 g/kg) pale brown crystalline powder
Relative density	1.34 g/cm^3 (purity: 990 g/kg) at 20 °C
Vapour pressure	$1.1 \cdot 10^{-10}$ Pa at 20 °C
Henry's law constant	$7.3 \cdot 10^{-9}$ Pa·m^3·mol^{-1}
Solubility in water	pH 5.2: 6.7 mg/l at 20 °C pH 7.0: 6.7 mg/l at 20 °C pH 9.2: 5.9 mg/l at 20 °C
Solubility in organic solvents	All results in g/l at 20 °C: Hexane: 0.057 Octan-1-ol: 1.4 Methanol: 20 Toluene: 55 Acetone: 86 Ethyl acetate: 130 Acetonitrile: 340 Dichloromethane: 400
Partition co-efficient (log P_{OW})	2.5 at 20 °C, without pH dependence
Hydrolytic stability (DT_{50})	25 °C, pH 5-9: stable 50 °C, pH 5-7: stable 50 °C, pH 9: 12.1 d, 60 °C, pH 9: 2.6 d 20 °C (Arrhenius plot): 2313 d
Dissociation constant	Neither acidic nor basic properties
UV/VIS absorption (max.)	202.6 nm: 60700 M^{-1}·cm^{-1} 242.7 nm: 17800 M^{-1}·cm^{-1} 295 nm: 302 M^{-1}·cm^{-1}
Photostability in water (DT_{50})	8.7 - 13.9 d at pH 7

APPENDIX II

END POINTS AND RELATED INFORMATION

AZOXYSTROBIN

1 Toxicology and metabolism

Absorption, distribution, excretion and metabolism in mammals

Rate and extent of absorption:	Dose dependent reaching nearly 100 % at low doses
Distribution:	Highest values measured in the kidneys followed by liver
Potential for accumulation:	No evidence of accumulation in the animal body
Rate and extent of excretion:	Rapidly eliminated with the bile being the main route
Toxicologically significant compounds:	Parent compound
Metabolism:	Well metabolised (at least 18 metabolites)

Acute toxicity

Rat LD_{50} oral:	> 5000 mg/kg bw
Rat LD_{50} dermal:	> 2000 mg/kg bw
Rat LC_{50} inhalation:	***> 0.7 mg/l air (particle size < 2 µm)*** ***> 4.7 mg/l air (particle size < 15 µm)***
Skin irritation:	***Not irritant***
Eye irritation	***Not irritant***
Sensitization:	Not a sensitizer

Short term toxicity

Target / critical effect:	Liver, common bile duct
Lowest relevant NOAEL:	10 mg/kg bw/d (90 d/1 y gavage dog)

Genotoxicity:	Weak clastogenic effects seen *in vitro;* no genotoxicity *in vivo*

Long term toxicity and carcinogenicity

Target / critical effect:	Liver, common bile duct
Lowest relevant NOAEL:	300 ppm (~ 20 mg/kg bw/d - 2 y feeding rat)
Carcinogenicity	No evidence of an oncogenic potential

Reproductive toxicity

Reproduction	Minor effects (body weight) at parental toxic dosages
Developmental toxicity	Minor effects (skeletal development) at maternal toxic dosages
Lowest relevant NOAEL	25 mg/kg bw/d (teratogenicity rat)

Delayed neurotoxicity:	No relevant effects
Other toxicological studies:	None of toxicological relevance
Medical data:	Currently limited as azoxystrobin is a new active ingredient

Summary

ADI	0.1 mg/kg bw, AF=100, (90 d & 1 y gavage dog)
Systemic AOEL	0.1 mg/kg bw/d, AF=100, (90 d & 1 y gavage dog)(*)
Dermal absorption	Less than 5 %

(*)represents the best possible estimation according to the current available methodology, which is however not yet completely harmonised

2 Fate and behaviour in the environment

2.1 Fate and behaviour in soil

Route of degradation

Aerobic:

Mineralization after 100 days:	11 - 14 % after 360 d 2 - 2.5 % after 100 d
Non-extractable residues after 100 days:	18 - 24 % after 360 d 9 - 10 % after 100 d
Relevant metabolites above 10 % of applied active substance: name and/or code % of applied rate (range and maximum)	(E)-2-(2-[6-cyanophenoxy)-pyrimidin-4-yloxyl]-phenyl)-3-methoxyacrylic acid (metabolite I), 21 % after 360 d (~ 7 % after 100 d)
Supplemental studies:	Not relevant

Anaerobic:	Faster degradation than under aerobic conditions. DT_{50} = 231 d Metabolite I at 48 - 51 % after 360 d, ~ 15 % after 100 d. Negligible CO_2 evolution. 11 - 13 % bound after 360 d, 8 - 10 % after 100 d
Soil photolysis:	DT_{50} = 11 d Eight photoproducts found, each in amounts less than 10 %.
Remarks:	No particular remarks

Rate of degradation

Laboratory studies

DT_{50}lab (20 °C, aerobic):	279 d[(2)] (1st order, r^2 > 0.9)
DT_{90}lab (20 °C, aerobic):	> 100 d
DT_{50}lab (5 °C, aerobic):	1066 d (1st order, r^2 > 0.9
DT_{50}lab (20 °C, anaerobic):	231 d (1st order, r^2 > 0.9)

(2) Average value resulting from different soils and ^{14}C-labelling positions.

Field studies (country or region)

DT_{50f} from soil dissipation studies:	3 - 39 d
DT_{90f} from soil dissipation studies: (Germany, UK, France, Italy)	87 d 197 d 363 d 284 d 254 d 435 d 407 d 271 d 173 d 260 d
Soil accumulation studies:	Not required
Soil residue studies:	Max. concentration in soil after multiple treatment: 0.15 mg/kg in 0 - 20 cm. If applied to grapes (bare soil) 8 times: max. residue level: 0.68 - 0.74 mg as/kg.

Remarks: e.g. effect of soil pH on degradation rate	No particular remarks

Adsorption/desorption

K_{oc} / K_{OM}	
Sandy clay loam	465/263
Sandy loam A	235/138
Sandy loam B	207/122
Sand	500/300
Silty clay loam	594/339
Clay loam	536/313

Mobility

Laboratory studies

Column leaching:	No leaching observed
Aged residue leaching:	Ageing for 30 d, 0.3, 1.7, 1.9 % of applied rate in leachate of 3 different soils

Field studies:

Lysimeter/Field leaching studies:	Not required
Remarks:	No particular remarks

2.2 Fate and behaviour in water

Abiotic degradation

Hydrolytic degradation:	Hydrolytically stable
Photolytic degradation:	Six photoproducts identified DT_{50} = 8.7 d (^{14}C-pyrimidinyl) 11.9 d (^{14}C-phenylacrylate) 13.9 d (^{14}C-cyanophenyl)

Biological degradation

Ready biological degradability:	Not submitted, see water/sediment study
Water/sediment study:	
DT_{50} water	34 d - 57 d (1. order)
DT_{50} whole system	170 d - 294 d (1. order)
Relevant metabolites	(E)-2-(2-[6-cyanophenoxy)-pyrimidin-4-yloxyl]-phenyl)-3-methoxyacrylic acid
- residues in the water phase (% of applied) maximum at day 152 at the end of the study at day 152	 11 % in water 11 % in water
- residues in the sediment (% of applied) maximum at day 152 at the end of the study at day 152	 16 % in sediment 16 % in sediment
Accumulation in water and/or sediment	Accumulation possible (see $PEC_{sediment}$)

Degradation in the saturated zone:	Not relevant
Remarks:	No particular remarks

2.3 Fate and behaviour in air

Volatility

Vapour pressure:	$1.1 \cdot 10^{-10}$ Pa at 20 °C
Henry's law constant:	$7.3 \cdot 10^{-9}$ Pa·m^3/mol

Photolytic degradation

Direct photolysis in air	DT_{50} = 8.7 - 13.9 d
Photochemical oxidative degradation in air: DT_{50}	Not submitted, see requirements
Remarks:	No particular remarks

3 Ecotoxicology

Terrestrial Vertebrates

Acute toxicity to mammals:	LD_{50} > 5000 mg as/kg bw
Acute toxicity to birds:	LD_{50} > 1000 mg as/kg bw
Dietary toxicity to birds:	LC_{50} > 5200 ppm as
Reproductive toxicity to birds:	NOEC 1200 ppm as
Short term oral toxicity to mammals	NOAEL 500 ppm as

Aquatic Organisms

Acute toxicity fish	LC_{50} (Rainbow trout) = 0.47 mg as/l, 96 h study
Bioaccumulation fish	Not required ($logP_{OW}$ < 3)
Acute toxicity invertebrate	EC_{50} (*Macrocyclops fuscus*) = 0.13 mg as/l, 48 h study
Acute toxicity algae	EC_{50} (*Selenastrum capric.*) = 0.36 mg as/l, 96 h study
Chronic toxicity sediment dwelling organism	NOEC 0.8 mg as/l

Honeybees

Acute oral toxicity	LD_{50} > 25 µg as/bee, 24 h study
Acute contact toxicity	LD_{50} > 200 µg as/bee, 24 h study

Other arthropod species

Acute and short-term toxicity:

Aphidius rhopalosiphi	23 % effect (***sublethal***) at 0.25 kg as/ha (250 SC)
Trichogramma cacoeciae	***1.8 %*** effect at 0.15 kg as/ha (500 WG)
Typhlodromus pyri	3.9 % effect at 0.1875 kg as/ha (500 WG)
Typhlodromus pyri	6.9 % effect at 0.1875 kg as/ha (250 SC)
Episyrphus balteatus	*48 % effect **(sublethal)** at 0.25 kg as/ha (250 SC)*
Poecilus cupreus	0 % effect at 0.25 kg as/ha (250 SC)

Effect after proposed conditions of use:

Typhlodromus pyri	***low to medium risk, i.e. acceptable impact (SC, WG)***
Amblyseius aberrans	***low to medium risk, i.e. acceptable impact (SC, WG)***

Earthworms

Acute toxicity	LC_{50} = 283 mg as/kg dry wt substrate
Reproductive toxicity:	NOEC 3.0 kg as/ha (250 SC)

Soil micro-organisms

Nitrogen mineralization	No effect up to 2.5 kg ***as***/ha (250 SC)
Carbon mineralization:	No effect up to 2.5 kg ***as***/ha (250 SC)

APPENDIX III

The following were submitted after the peer review examination and were not cited in the monograph:-

Annex II data: -						
Guideline	**Author/Year**	**Title**	**Date of submission**	**GLP**	**Publ**	**Data protection requested**
5.2.3/02	Pinto PJ 1997	Azoxystrobin TGAI: 4 Hour Acute Inhalation and Toxicity Study in Rats. Report No. CTL/P/5546.	06.10.1997	YES	NO	YES
8.2	Hamer M, SJ Maund, KZ Travis and AM Wadley 1997	Azoxystrobin: Aquatic Risk Assessment under the EU registration Scheme. Zeneca Agrochemicals Report No. TMJ3828B	07.07.1997	No	No	YES
8.2	Gentle, WE and JH Rapley 1997	Azoxystrobin: BBA Toxicity Test with Sediment-dwelling Chironomus riparius. Zeneca Agrochemicals Report No. RJ2293B	07.07.1997	Yes	No	YES
8.2	Gentle, WE 1997	Azoxystrobin: Sediment Toxicity Test with Chironomus riparius. Zeneca Agrochemicals Report No. RJ2292B	07.07.1997	Yes	No	YES
6.2	Webb, J, S Mayes, TR Steel and CA Daykin 1996	ICIA5504: Metabolism of Orally Administered Multiple Doses in Lactating Goat. Zeneca Agrochemicals Report No. RJ2083B (Volume I and II)	03.06.1997	Yes	No	YES
6.3	Sapiets, A and E Alavera 1996	Azoxystrobin: Residue Levels in Grapes and Raisins from Trials Conducted in Greece during 1995. Zeneca Agrochemicals Report No. RJ2192B.	01.11.1996	Yes	No	YES

4.2.1	Tillkes, M 1995	Validation of DFG-method S19 for the determination of residues of ICIA5504 and R230310 in wheat, rye, barley and grapes. Dr. Specht & Partmer GmbH, report No. ZEN-9402V, Az26427/94, February 1997.	01.11.1996	Yes	No	YES
7.1.3	Hayes, SE and AM Wadley 1997	Azoxystrobin: PELMO v2.01 Modelling of Potential Leaching Under a Range of Soil and Climatic Conditions. Zeneca Agrochemicals Report No. TMJ3903B	06.10.1997	No	No	YES
7.1.1	Anonym 1997	Discussion of the predicted fate and behaviour of Azoxystrobin under nordic conditions.	06.10.1997	No	No	YES
7.1.1	Anonym 1997	Azoxystrobin: Importance of compounds 28 and 30 in soil. Zeneca Agrochemicals document RAD1744-GB/SJR-4th of June 1997.	24.10.1997	No	No	YES

Annex III data (Priori) :

Guideline	Author/Year	Title	Date of submission	GLP	Publ	Data protection requested
7.1.3	Parr-Dobranski RJ 1996	ICIA5504: 4 Hour Acute Inhalation Toxicity Study in the Rat of a 250 g/l SC Formulation. Report No. CTL/P/4873	06.10.1997	YES	NO	YES

Annex III data (Amistar 500) :

Guideline	Author/Year	Title	Date of submission	GLP	Publ	Data protection requested
7.3	Davies D J and McAsey S P 1994	ICIA5504: *In vivo* percutaneous absorption of a 50 WG formulation in the rat. Central Toxicology Laboratory. Report No. CLT/P/4531, (C5.2/03)	06.10.1997	YES	NO	YES
7.3	Ward R J 1996	ICIA5504: *In Vitro* Absorption from a 500 g/kg WG Formulation through Human and Rat Epidermis. Report No. CTL/P/4879 First Supplement to ICIA5504: *In Vitro* Absorption from a 500 g/kg WG Formulation through Human and Rat Epidermis. CTL/P/4879	06.10.1997	YES	NO	YES

Annex III data (Amistar 250) : -						
Guideline	**Author/Year**	**Title**	**Date of submission**	**GLP**	**Publ**	**Data protection requested**
10.6.1	Römpke J 1997	A Study on the Reproduction Toxicity of ICIA5504 250 g/l SC accoprding to the BBA Guideline VI 2-2 'Effects of Plant Protection Products on the Reproduction and Weight Developments of Eisenia fetida/Eisenia andrei' adopted January 1994. ETC Ökotoxikologie GmbH Study No.: F2RR	30.04.1997	Yes	No	Yes

SHORT REPORT
OF THE MEETING OF THE STANDING COMMITTEE ON PLANT HEALTH HELD ON 22 APRIL 1998

President : G. DEL BINO
All delegations were present.

1. **EXAMINATION AND POSSIBLE OPINION OF A DRAFT COMMISSION DECISION RECOGNISING IN PRINCIPLE THE COMPLETENESS OF THE DOSSIERS SUBMITTED FOR DETAILED EXAMINATION IN VIEW OF THE POSSIBLE INCLUSION OF OXADIARGYL, BAS 615H, KBR 2738 (FENHEXAMID) AND DPX-KN128 (INDOXACARB) IN ANNEX I OF COUNCIL DIRECTIVE 91/414/EEC CONCERNING THE PLACING OF PLANT PROTECTION PRODUCTS ON THE MARKET (DOC. 1674/VI/98- REV 1)**

   This decision is to permit the detailed examination of the dossier with a view to a possible inclusion in Annex I to Council Directive 91/414/EEC concerning the placing of plant protection products on the market.

   Vote : unanimous favourable opinion

2. **EXAMINATION AND POSSIBLE OPINION OF A DRAFT COMMISSION DIRECTIVE CONCERNING THE INCLUSION OF AZOXYSTROBIN IN ANNEX I OF COUNCIL DIRECTIVE 91/414/EEC CONCERNING THE PLACING OF PLANT PROTECTION PRODUCTS ON THE MARKET (DOC 7847/VI/97-REV 5)**

   This directive is to include an active substance in Annex I to Council Directive 91/414/EEC concerning the placing of plant protection products on the market..

   Vote : unanimous favourable opinion

   N.B: The measure on which the Committee has given its opinion is subject to the appropriate procedure for formal adoption by the Commission.

A CHECCHI LANG
Director

Minutes of the fourth Meeting of the Scientific Committee on Plants, Brussels, 18-19 March 1998

ATTENDANCE LIST

Members
Dr. M.-P. DELCOUR-FIRQUET, Prof. H. V. DAVIES, Dr. R. HANS, Prof. A. R. HARDY , Prof. C. L. GALLI, Prof. S. O. KARENLAMPI, Dr. H. A. KUIPER, Dr. J. J. LEGUAY , Prof. M. MARONI (Vice-Chairman) , Dr. H. G. NOLTING, Prof. F O' GARA (Vice-Chairman) , Dr. E. RODRIGUEZ-CEREZO, Prof. A. M. S. SILVA FERNANDES (Chairman)

Apologies
Dr. M. CABOCHE, Prof. F. FUHR

Commission
Ms J. KIOUSSI (DG XI)
Mr A. HOEVELER (DG XII), Mr M. LEX (DG XII)
Mr K. DOEHLER (DG XI)
Mr G. VAN DEN EEDE JCR)
Mr C. EDMUNDS (DG VI)

Secretariat
Mr M. WALSH (DG XXIV/B/2), Mr T. DASKALEROS (DG XXIV/B/2), Ms S. VAN IMPE (DG XXIV/B/2)

- Extract from official record on SCP website -

5.2. Inclusion of azoxystrobin in Annex 1 to Directive 91/414/EEC

Azoxystrobin had been referred to the SCP without a specific question. The Committee was satisfied that it had been provided with adequate documentation comprising the complete dossier from the notifier Zeneca, the monograph prepared by the Rapporteur Member State (Germany) and the documentation from the Peer Review Meetings involving national experts of Member States and the draft proposal from the Commission services of DG VI for inclusion of the active substance in Annex 1 to Directive 91/414/EEC. The Committee reviewed the above mentioned documentation and agreed, in the context of the uses described, with the overall conclusions and the proposal for inclusion of the azoxystrobin in Annex 1 to Directive 91/414/EEC. It was recognised that national authorisations would involve specific risk management in line with Annex 6 (Uniform Principles) of Directive 91/414/EEC.

The Committee made the following recommendations:

a)that notifiers and Rapporteur Member States use a consistent system for the identification of metabolites throughout the documentation in order to facilitate transparency.

b)that study summaries should clearly describe adverse effects when establishing No Observed Adverse Effect Levels (NOAELs).

c)that documentation supplied to the Committee should include details of updated agricultural practices.

Berichte aus der Biologischen Bundesanstalt für Land- und Forstwirtschaft erscheinen seit 1995 in zwangloser Folge.

Heft 44, 1998: Tagungsband zur Antragstellerkonferenz Braunschweig, 10. Juni 1998. Bearbeitet von Edelgard Adam, 176 S.

Heft 45, 1998: Europäische und nationale Regelungen für gentechnisch veränderte Organismen (GVO) (Richtlinien, Entscheidungen, Empfehlungen, Gesetze, Verordnungen und Bekanntmachungen) Stand: 1. Juli 1998. Bearbeitet von Prof. Dr. Günther Deml, Dr. Joachim Schiemann, Dr. Jörg Landsmann, 306 S.

Heft 46, 1998: Einführung in die Biometrie unter Berücksichtigung der Software SAS. Teil 3: Die Varianzanalyse im Feldversuchswesen. Dr. Eckard Moll, 172 S.

Heft 47, 1998: Zuständigkeiten bei der Prüfung und Zulassung von Pflanzenschutzmitteln und bei der EU-Wirkstoffprüfung. (Stand: September 1998). Bearbeitet von Edelgard Adam, 59 S.

Heft 48, 1999: Tropischer und Subtropischer Pflanzenbau. Seine Entwicklung als Teil der Landbauwissenschaften – am Beispiel der Kagera-Region in Tansania/Ostafrika – eine Kurzdarstellung der tansanischen Landwirtschaft. Dr. Heinrich Brammeier, 82 S.

Heft 49, 1999: Art und Menge der in der Bundesrepublik Deutschland abgegebenen und der exportierten Wirkstoffe in Pflanzenschutzmitteln (1987 – 1997). Ergebnisse aus dem Meldeverfahren nach § 19 des Pflanzenschutzgesetzes. Bearbeitet von Dr. Hans-Hermann Schmidt, Dr. Achim Holzmann, Edeltraut Alisch, 77 S.

Heft 50, 1999: Pflanzenschutzmittel im ökologischen Landbau – Probleme und Lösungsansätze. Erstes Fachgespräch am 18. Juni 1998 in Kleinmachnow - Pflanzenstärkungsmittel – Elektronenbehandlung - . Bearbeitet von Dr. Holger Beer und Dr. Marga Jahn, 76 S.

Heft 51, 1999: Wirkstoffdatenblätter zur arbeitsmedizinischen Vorsorgeuntersuchung - Pflanzenschutzmittel - . 2. Folge, Stand: Dezember 1998. Bearbeitet von Dr. Hans-Hermann Schmidt, Dr. Eberhard Hoernicke, Dr. Marion Fathi, Dr. Rudolf Pfeil, 239 S.

Heft 52, 1999: Liste der zugelassenen Pflanzenschutzmittel (Stand: 1. Januar 1999). Bearbeitet von Dr. Achim Holzmann und Andreas Spinti, 63 S.

Heft 53, 1999: Pflanzenschutz im ökologischen Landbau – Probleme und Lösungsansätze. Zweites Fachgespräch am 5. November 1998 in Darmstadt. Die Anwendung kupferhaltiger Pflanzenschutzmittel, ihre Auswirkungen auf den Naturhaushalt und Erörterung der Möglichkeiten, unerwünschte Auswirkungen zu begrenzen. Bearbeitet von Dr. Marga Jahn und Dr. Holger Beer, 85 S.

Heft 54, 1999: Verzeichnis der Wirkstoffe in zugelassenen Pflanzenschutzmitteln (ehemals Merkblatt Nr. 20). Stand: Juli 1999. Bearbeitet von Dr. Walter Dobrat, 265 S.

Heft 55, 2000: Liste der zugelassenen Pflanzenschutzmittel (Stand: 1. Januar 2000). Bearbeitet von Dr. Achim Holzmann, 88 S.

Heft 56, 2000: Einführung in die Biometrie unter Berücksichtigung der Software SAS. Teil 4: Korrelationsanalyse, Regressionsanalyse und Kovarianzanalyse. Zur Nutzung von SAS/INSIGHT® und der Analyst Application. Bearbeitet von Dr. Eckart Moll, 94 S.

Heft 57, 2000: Synopsis of Testing Plant Protection Equipment in the Federal Republic of Germany. Published on the Occasion of the 50th.Anniversary of Testing Plant Protection Equipment at the Federal Biological Research Centre for Agriculture and Forestry in Braunschweig. Bearbeitet von Siegfried Rietz, 214 S.

Heft 58, 2000: Aufgaben der Biologischen Bundesanstalt für Land- und Forstwirtschaft als selbständige Bundesoberbehörde. Stand: März 2000. Dr. Gerhard Gündermann, 21 S.

Heft 59, 2000: EU-Beurteilungsbericht Fluroxypyr. Rechtliche Regelungen der Europäischen Union zu Pflanzenschutzmitteln und deren Wirkstoffen. Band D 1. Bearbeitet von Dr. Achim Holzmann und Jutta Plekat, getr. Zählung.

Heft 60, 2000: EU-Beurteilungsbericht Azimsulfuron. Rechtliche Regelungen der Europäischen Union zu Pflanzenschutzmitteln und deren Wirkstoffen. Band D 2. Bearbeitet von Dr. Achim Holzmann und Jutta Plekat, getr. Zählung.

Heft 61, 2000: EU-Beurteilungsbericht Kresoxim-methyl. Rechtliche Regelungen der Europäischen Union zu Pflanzenschutzmitteln und deren Wirkstoffen. Band D 3. Bearbeitet von Herbert Köpp und Jutta Plekat, getr. Zählung.

Heft 62, 2000: Wirkstoffdatenblätter zur arbeitsmedizinischen Vorsorgeuntersuchung - Pflanzenschutzmittel - . 3. Folge, Stand: Dezember 1999. Bearbeitet von Dr. Hans-Hermann Schmidt, Dr. Eberhard Hoernicke, Dr. Marion Fathi, Dr. Rudolf Pfeil, 224 S.

Heft 63, 2000: Biodiversität in der Biologischen Bundesanstalt für Land- und Forstwirtschaft (BBA). Bearbeitet von Prof. Dr. Fred Klingauf, Dr. Heinrich Brammeier, Dr. Wolfgang Burgermeister und Dr. Holger Beer, 507 S.

Heft 64, 2000: Zuständigkeiten bei der Prüfung und Zulassung von Pflanzenschutzmitteln und bei der EU-Wirkstoffprüfung. Stand: Juni 2000. Bearbeitet von Edelgard Adam, 59 S.