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Abstract

Mit der Verordnung (EG) Nr. 1782/2003 wurde das gesamte System der Direktzahlungen im Agrarbereich der Europäischen Union verändert. Neben der politischen Reaktion auf WTO und Osterweiterung der Union, bedeutet diese Reform auch mehr Gestaltungsspielraum für die Mitgliedsstaaten der Gemeinschaft. In Deutschland wird die Zahlung weitestgehend von der Produktion entkoppelt. Es entstehen Zahlungsansprüche, die losgelöst vom Eigentum an Fläche, bei Einhaltung bestimmter Bedingungen durch deren jeweiligen Besitzer aktiviert werden können, wenn diese gleichzeitig die landwirtschaftlichen Flächen bewirtschaften. Der Erhalt der Zahlungen wird weiterhin an Umwelt-, Tierschutz- und Bewirtschaftungsregeln (Cross Compliance) geknüpft. Letztlich erfordert das System hohe Flexibilität der Agrarunternehmen.

Stichworte: Agrarpolitik, Agrarreform, Zahlungsansprüche, Entkopplung, Cross Compliance.

**CZECH AGRICULTURE IN CONTEXT OF COMMON AGRICULTURAL
POLICY OF EUROPEAN UNION**

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Abstract

In the paper the Common Agricultural Policy (CAP) and System of Single Area Payments (SAPS) in the Czech Republic are described. The Czech Republic faces problems similar to those in EU i.e. "depopulation", ageing of population and decreasing of job opportunities in countryside and tries to solve them by using national and EU resources.

Key words: Czech Republic, Common Agricultural Policy, System of single area payments, support in agricultural sector, rural countryside development.

LEGAL REGULATIONS AND ORGANIZATION OF AGROCHEMICAL SERVICE IN THE CZECH REPUBLIC

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Abstract

In the paper the organisation of agrochemical service in the Czech Republic is presented. Mainly Central Institute for Supervising and Testing in Agriculture (CISTA) and the State Phytosanitary Administration of the Czech Republic (SPA) provide these services.

Key words: Czech Republic, agrochemical testing of soil, fertilizers registration, monitoring, plant protection.

LEGAL REGULATIONS AND ORGANIZATION OF AGROCHEMICAL SERVICE IN LATVIA

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Abstract

In the paper the history and organization of agrochemical service in Latvia since 1964 is presented. The tasks and achievements of Agrochemical Research Centre, State Plant Protection Service and Latvian Rural (Agricultural) Advisory and Training Centre in the years 1999- 2002 is briefly described .

Key words : Latvia, Agrochemical Research Centre, Plant Protection Service, Latvian Rural Advisory and Training Centre.

SOIL AGROCHEMICAL RESEARCH IN LITHUANIA

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Abstract

In the paper the history of research on soil properties in Lithuania is presented. The analyses of different soil properties are discussed, the methods of analysis are indicated. The data are presented for the prevailing soil types in Lithuania, their textural differences, acidity, mobile phosphorus content, mobile potassium content, amount of humus, mineral nitrogen content, sulphur content, amounts of micro-elements: boron, molybdenum, manganese, cobalt, zinc, copper.

Key words: soil, texture, agrochemical properties, microelements.

ORGANIZATION OF AGROCHEMICAL SERVICE IN SLOVENIA

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Introduction

The institutions that are in charge of agrochemical service in Slovenia are within the Ministry of Agriculture, Forestry and Food, Ministry of Health and Ministry of the Environment, Spatial Planning and Energy. The other institutions on this list are University of Ljubljana (Biotechnical Faculty), Agricultural Institute of Slovenia, Slovenian Institute for Hop Research and Brewing, Regional Agricultural Institutes within the Chamber for Agriculture and Forestry, Institutions for Health Protection, Institutions for Environmental Protection and Environmental Research & Industrial Co-operation Institute (ERICo Velenje).

**THE CONTENT OF NITRATES IN SOIL AND WATER AS A BASE
FOR SUSTAINABLE NITROGEN MANAGEMENT
IN THE CZECH REPUBLIC**

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Abstract

In the paper the state of implementation of Nitrate Directive in Czech Republic is briefly described. Vulnerable zones covering 42,5 % of agricultural land were designated on the base of surface water monitoring programme. The first Action Program for these zones was proclaimed at the beginning of 2004. Central Institute for Supervising and Testing in Agriculture and Czech Environmental Inspection are accredited to conduct the supervision of the farms in vulnerable zones.

Key words : Nitrate Directive, vulnerable zones, Czech Republic

**RECHTLICHE VORGABEN FÜR NACHHALTIGE STRATEGIEN DER
STICKSTOFFDÜNGUNG IN DEUTSCHLAND**

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Abstract

Fertilization regulations mean the controlled but a good practice of fertilization towards sustainable agriculture and environmental preservation. The national regulations, based on the EU nitrate directive, are politically motivated but sometimes practically unrealistic. At present, the N surplus in German agriculture is ~110 kg ha⁻¹. This paper refers to a critical review of the German regulations. An amendment is scheduled in January 2006, aiming at an acceptable farm specific N surplus. This enables a self-controlling system of fertilization to increase N efficiency and reduce environmental pollution by assessing the N situation of a farm. The level of N surplus is manageable by the prescribed annual maximum N load of farm manure, currently 170 kg ha⁻¹. The goal of cross compliance regulations is to reach a well-balanced supply of humus to soils, with lower N input by farm manure. Improved environment through farming is achievable only by adopting suitable legislations and altered consumer behaviours.

Stichworte : Düngeverordnung, N-Bilanz, N-Überschuss, Humusbilanz

NACHHALTIGKEIT DES STICKSTOFF-MANAGEMENT ANHAND DES NITRATGEHALTES IN BODEN UND WASSER IN UNGARN

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Abstrakt

Auf Grund der zwischen 1999-2002 in Ungarn, auf 1500 Probestellen durchgeführten Bodenmonitoring Messungen kann festgestellt werden, dass der $\text{NO}_3\text{-N}$ Gehalt in der oberen Bodenschicht in 90% der Proben unter dem kritischen Wert $50 \text{ mg}\cdot\text{kg}^{-1}$ liegt. Der Nitratgehalt sinkt allmählich mit der Tiefe. In den tieferen Schichten (100-150 cm) überschreitet der $\text{NO}_3\text{-N}$ Gehalt den kritischen Wert in weniger als 6% der Probestellen. In der Winterperiode besteht im allgemeinen keine Gefahr der $\text{NO}_3\text{-N}$ Auswaschung aus den oberen Schichten in tiefere Schichten. In den Oberflächengewässern Ungarns überstieg der jährliche Mittelwert im untersuchten Zeitraum 1996-98 und 2000-2002, nur in 10% der Messpunkte die kritische $50 \text{ mg}\cdot\text{dm}^{-3}$ $\text{NO}_3\text{-N}$ Konzentration, selbst die Maximumwerte lagen darunter. In den großen Flüssen und Seen sind keine Messwerte über $50 \text{ mg}\cdot\text{dm}^{-3}$ vorgekommen. Die Nitratwerte zeigen eine sinkende Tendenz. Die Eutrofisation der Gewässer ist sowohl in den Flüssen, als auch in den Seen bedeutend. Auch in den Tiefengewässern Ungarns ist keine bedeutende Nitratverschmutzung nachweisbar. In den Jahren 2000-2002 überstieg der Nitratgehalt nur in 8,5% der 1846 Messpunkte den Grenzwert $50 \text{ mg}\cdot\text{dm}^{-3}$, obwohl die Punkte des Monitoring Systems überwiegend auf die zur Oberfläche naheliegende gefährdete Wasservorräte ausgerichtet sind. Die Wasservorräte der tieferen Schichten, die den größeren Teil der Tiefengewässer ausmachen und den Trinkwasservorrat vertreten, sind praktisch nitratfrei. Zum Schutz der Trinkwasservorräte und Vermeidung der Umweltschäden wurden strenge Regelungen eingeführt. Die Produzenten sind zur Einhaltung der guten landwirtschaftlichen Praxis verpflichtet. Nach statistischen Daten wird nur auf 48% der landwirtschaftlich genutzten Flächen gedüngt. Der durchschnittliche Aufwand beträgt auf den gedüngten Flächen 160 kg/ha NPK Reinnährstoff, davon 106 kg/ha N. Organischer Dünger steht in Folge des niedrigen Viehbesatzes $0,2 \text{ GVE/ha}$, nur in beschränktem Maße zur Verfügung.

Stichworte: Nachhaltigkeit, Stickstoffmanagement, Nitratgehalt, Boden, Wasser

THE CONTENT OF NITRATE IN SOIL AND WATER IN LATVIA (LV) AS A BASE FOR SUSTAINABLE NITROGEN MANAGEMENT

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Abstract

The publication presents a short description of Latvia, its environmental and agricultural situation. Agriculture is a sector where activities carried out may cause a diverse and harmful impact on the environment. Currently in Latvia most of the farmers do not apply intensive farming methods, therefore pollution of water and soil with nitrates from agricultural activities is low compared to most of the countries of Western Europe. The biggest source of agricultural pollution is improper manure management. For last years there are many actions carried out in Latvia to meet the EU Directive 91/676/EEC (Nitrate directive) requirements for the protection of waters against pollution by nitrates. One of the last actions in this field is the development of Action programme for vulnerable zones.

Key words: Latvia, agriculture, environment, nitrate, water, soil, vulnerable zones, action programme

SUSTAINABLE NITROGEN MANAGEMENT IN POLAND PRINCIPLES AND LEGISLATION

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Abstract

In the paper basic problems concerning sustainable nitrogen management on country's scale in Poland are presented. The general outlook on Polish agriculture with respect to natural and socio-economical conditions is given. The newest monitoring dates on nitrate content in surface and underground waters, including shallow ditch-ground waters are collected. The results of soil monitoring for the content of nitrates were processed for the purpose of this presentation.

Key-words: nitrogen balance, nitrates in surface waters, nitrates in underground waters, nitrates in soils, sustainable nitrogen management.

**PROBLEMS RESULTING FROM THE POLLUTION OF WATERS CAUSED
BY NITRATES FROM AGRICULTURAL SOURCES IN MIDDLE POLAND**

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ABSTRACT

The intensification of the agricultural production causes an extended use of the fertilisers containing nitrogen and as a result is a serious source of water pollution. Regarding the limitation and a control of this issue the Council of the European Community has approved a Nitrate Directive. Its provisions were transposed to the Water Law Act. There have been discussed problems connected with the implementation of those legal regulations and especially concerning the designation of the waters vulnerable for pollution caused by nitrogen compounds, designing of vulnerable zones and the programmes of measures for those areas in Middle Poland.

Key words: water pollution, Good Agricultural Practice, Middle Poland.