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REPORT FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

ON THE USE OF COCCIDIOSTATS AND HISTOMONOSTATS AS FEED ADDITIVES

submitted pursuant to
article 11 of regulation (ec) no 1831/2003
of the european parliament and of the council
of 22 september 2003
on additives for use in animal nutrition

TABLE OF CONTENTS

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1. BACKGROUND

1.1. Introduction

Article 11 of Regulation (EC) No 1831/2003 of the European Parliament and of the Council of 22 September 2003 on additives for use in animal nutrition[1] lays down that the Commission shall submit to the European Parliament and the Council a report on the use of coccidiostats and histomonostats as feed additives with a view to a decision on the phasing out of the use of these substances as feed additives by 31 December 2012. The report also has to address available alternatives and should be accompanied, where appropriate, by legislative proposals.

The Commission has prepared this report on the basis of information gathered from contributions from Member States authorities and stakeholders.

Coccidiostats and histomonostats are chemicals, either obtained by synthesis or produced by micro-organisms, which inhibit or destroy protozoan parasites which cause coccidiosis or histomoniasis in farmed animals. Coccidiostats may have also a secondary and residual activity against the micro flora of the gut, but they are different from the antibiotics used as growth promoters, which have their primary action on the gut micro flora. The use of those antibiotics as growth promoters has been forbidden in the European Community since 1 January 2006.

1.2. Feed additives Legislation

Over the last 40 years coccidiosis in farmed animals has been controlled by adding substances to feed and since 1970 the Community regulates and authorises coccidiostats as feed additives under Directive 70/524/EEC of 23 November 1970 concerning additives in feeding-stuffs[2]. The Directive was fully reviewed in 2003 and Regulation (EC) No 1831/2003 represented a major overhaul of the existing EU legislation on feed additives.

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1 OJ L 268, of 18.10.2003, p. 29.

2 OJ L 270, of 14.12.1970, p. 1. Directive as last amended by Regulation (EC) No 1756/2002 (OJ L 265, of 3.10.2002, p. 1).

The Regulation introduced many new aspects into the then existing legislation on feed additives, having been one of the first pieces of food safety legislation adopted following Regulation (EC) No 178/2002 laying down the principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety[3]. Apart from giving the responsibility for safety assessment and scientific advice to the European Food Safety Authority, Regulation (EC) No 1831/2003 followed the principles laid down in Regulation (EC) No 178/2002 by introducing the granting of time-limited authorisations valid for a period of 10 years, the setting up of a Community Reference Laboratory for feed additives, the possibility of establishing Maximum Residue Limits for certain additives which may result in residues when added to feed, and the possibility of laying down post-marketing monitoring programmes at the time of authorisation, as well as other provisions. The Regulation also kept coccidiostats and introduced histomonostats as a new category of feed additive, whilst establishing the phasing out of the use (and marketing) of the existing antibiotics as feed additives from 1 January 2006, taking into account the risks of selecting bacterial strains resistant to human or veterinary medicine drugs when using antimicrobials as growth promoters.

Labelling requirements for feeding-stuffs incorporating certain categories of additives, including coccidiostats and histomonostats, are still covered by Article 16 of Directive 70/524/EEC, which remains in force until Directive 79/373/EEC on the marketing of compound feeding-stuffs[4] has been revised to include rules concerning the labelling of feeding-stuffs incorporating additives.

Veterinary medicinal products are regulated in the European Union by Directive 2001/82/EC[5].

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3 OJ L 31, of 1.2.2002, p. 1 as last amended by Regulation (EC) N° 1642/2003 (OJ L 245, of 29.9.2003, p. 4).

4 OJ L 86, of 6.4.1979, p. 30.

5 OJ L 311, of 28.11.2001, p. 1.

2. CURRENT LEGISLATIVE SITUATION OF COCCIDIOSTATS AND HISTOMONOSTATS AS FEED ADDITIVES.

At present there are 11 different coccidiostats which have been granted 28 different authorisations for different species and under certain conditions of use. The products are authorised currently for chickens, turkeys and rabbits. These coccidiostats can be grouped into two major types. In the first group are ionophores (substances which contain a polyether group and are produced by fermentation with several strains of *Streptomyces* spp and *Actinomadura* spp) comprising the following six substances: monensin sodium, lasalocid sodium, maduramicin ammonium, narasin, salinomycin sodium and semduramicin sodium. The second group includes four other synthetic products not of an ionophoric nature: decoquinate (a compound belonging to the chemical group quinolones), robenidine hydrochloride (chemical group guanidines), halofuginone (chemical group quinazolinones) and diclazuril (chemical group benzene acetonitriles) and nicarbazin. No products are currently authorised as histomonostats and used as feed additives in the EU. All coccidiostats have undergone a safety evaluation performed by EFSA or by the Scientific Committee for Animal Nutrition.

The individual authorisations contain the characteristics of the products, the identification of the authorisation holder, the maximum, minimum and/or recommended dosages, the animal categories in which they can be used, Maximum Residue Limits (MRL) and withdrawal periods where necessary, as well as specific labelling provisions and other further conditions where necessary. The current time-limited authorisations come to an end between 2009 and 2017. The details of these authorisations are summarised in Annex I.

3. USE OF HISTOMONOSTATS AND COCCIDIOSTATS

3.1. Nature of coccidiosis and histomoniasis and their prevalence

The disease coccidiosis is caused by highly host-specific protozoan parasites of the genera *Eimeria* (phylum Apicomplexa). There are seven main species that affect poultry *(E. acervulina, brunetti, mitis, necatrix, praecox, tenella and maxima)*, five other species specific to turkeys (such as *E. meleagrimitis)* and six to rabbits (such as *E. stiedae)*. Coccidiosis can also occur in cattle and pigs, but the main focus is on poultry, turkeys and rabbits, since those are the largest sectors using control measures to prevent this fatal disease for these more sensitive species.

Eimeria is widespread in the environment, can be carried in its dormant form in the environment by vermin and birds and is highly tolerant to changing weather conditions and disinfectants, making it virtually impossible to eradicate. Once ingested, it rapidly invades the intestinal tissues, multiplies and is excreted again as multiple viable ‘eggs’ (oocysts) that re-infect neighbouring animals and buildings.

The effect on the host, without treatment, ranges from mild intestinal inflammation resulting in reduced feed intake through loss of appetite and subsequent poor weight gain, to haemorrhagic diarrhoea and death, depending upon the severity of the infection and the species involved. Even in cases of mild infection, the intestinal lesions frequently leave the door open to other microbial infections which may worsen the condition of the affected animal.

Coccidiosis affects all wild and domestic birds. Although there are no exact prevalence and incidence data on clinical and subclinical coccidiosis in commercial poultry and rabbit production, it is widely acknowledged that the parasites are present in all commercial herds. The nature of the parasitic infestation is such that coccidiosis is present on all poultry farms, even in the presence of high sanitary standards and good management, with a high potential impact on animal welfare.

The disease histomoniasis is also caused by a protozoan parasite, *Histomonas meleagridis.* The most severe effects are seen in turkeys ('black head'), although a broad spectrum of birds can be affected.

3.2. Uses of coccidiostats

In commercial production, the main method of controlling coccidiosis is through the addition of coccidiostats to the feed at the authorised levels and observing the prescribed hygiene requirements. Generally, coccidiostats need to be administered throughout the life of the animal (in the case of chickens for fattening) in order to protect against re-infection from the ever-present oocyst stage of the disease.

All coccidiostats inhibit reproduction and do not fully eliminate the parasite from the intestine of the animal. Therefore, the authorised synthetic chemicals play a vital role in conjunction with the ionophores, making it possible to rotate or switch the products from production cycle to production cycle or to use them in so-called '*shuttle'* programmes in order to ensure proper control of the disease and also to minimise the development of immunity in the parasite.

The availability and the continuous preventive use of coccidiostats have contributed significantly to the development of poultry production with a high level of health and welfare of the animals. The introduction of the first ionophore coccidiostat (monensin) in the seventies represented a major achievement in the control of coccidiosis. Prior to this, coccidiosis outbreaks were common and more difficult to treat or prevent, as only non-ionophoric coccidiostats were available and these were much less effective because of the rapid development of immunity by the parasite.

As regards histomonostats, although no products belonging to this category are currently authorised in the EU, the mechanism exists for authorising them if an application for authorisation of a product were to be submitted with enough data supporting its safety for the animals, the consumers and the environment, and its efficacy. There are indications in some turkey-producing Member States that, since the withdrawal of the authorisation of the only histomonostat in 2003 there has been a significant decrease in technical performance indicators in turkey production and an increase in veterinary costs, which supports the search for a suitable product.

4. SAFETY OF THE USE OF COCCIDIOSTATS AS FEED ADDITIVES

Authorised coccidiostats for use in animal feed are not used for human medical purposes.

The safety of the coccidiostats that are currently authorised has recently been extensively assessed, mainly by the European Food Safety Authority (EFSA). This evaluation covers safety for the animals, consumers and users, and the environment. This safety assessment also pays attention to the risk of development of immunity in protozoa and cross resistance for micro organisms to avoid the theoretical development of resistance to antimicrobials used in human or veterinary medicine, unknown to date.

The fact that Regulation (EC) No 1831/2003 makes provision for the fixing of Maximum Residue Limits (MRLs) for residues of an additive in relevant foodstuffs of animal origin has meant that, with the MRLs established in the last few years, there are now more effective and clearer ways than before of controlling the uses of coccidiostats in feed.

According to Regulation (EC) No 183/2005 of the European Parliament and of the Council of 12 January 2005 laying down requirements for feed hygiene[6], establishments manufacturing and/or placing on the market coccidiostats and histomonostats, and premixtures and compound feedingstuffs containing these additives, shall be approved by the competent authority for these activities. What these provisions mean in practice is that, as a general rule, farmers wishing to use coccidiostats and histomonostats will obtain only ready-for-use complete or complementary feeding-stuffs manufactured by approved feed compounders. This is an important safety feature as it ensures the accuracy and homogeneity of the mixture and allows effective official controls by the competent authorities.

Some Member States, such as Sweden, have surveillance programmes in force to detect increase in resistance to antimicrobials related to the use of coccidiostats as feed additives in which no signs of such an increase have so far been observed.

[6] OJ L 35, of 8.2.2005, p. 1.

5. STATISTICS ON USE

It is not easy to compile accurate figures of production and use for the whole of Europe, given the free movement of products within the internal market and the overlaps between the figures used by national authorities. The figures which appear in Annex II, compiled jointly by the International Federation for Animal Health Europe (IFAH Europe), the European Feed Manufacturers' Federation (FEFAC) and the European poultry producers and traders association (AVEC) concerning the concentration of these products in several types of feeds for different animal categories for the EU–27 as a whole, are considered to be the best estimate.

The figures indicate that coccidiostats are widely used in feed for broiler and turkey production in EU-27. Although the statistics do not indicate a particular trend over time, it seems that this use has been generally stable in recent years.

6. ALTERNATIVES TO THE USE OF COCCIDIOSTATS AND HISTOMONOSTATS

6.1. Vaccination

Since 1992 vaccines have been developed based on precocious oocysts of parasite strains. Commercial use of vaccines for coccidiosis started in 1992 for replacement hens ready to lay and in 2000 for commercial chickens for fattening. Currently the vaccines are used as the primary method for preventing coccidiosis in breeding flocks and laying hens. There is one vaccine that is authorised EU-wide, and two others are available in a small number of countries. Proponents of vaccines argue that continued use of coccidiostats increases resistance, and therefore there is a need to keep developing new products. Vaccines however are species-specific and are not available for all types of animals.

Currently, there are no vaccines available for the prevention of histomoniasis.

6.2. Herbal products

A number of plant extracts and essential oil preparations are used commercially.

However, there are currently no controlled studies to provide measurable coccidiosis and histomoniasis prevention, and no applications for authorization and evaluation by EFSA have been submitted to date under Regulation (EC) No 1831/2003.

6.3. Use of prescription veterinary medicines

A limited number of chemicals are approved for veterinary use. They are toltrazuril, amprolium, and a number of sulfamides (sulfamiderazin, sulfadimethoxin, trimethoprime associated with sulfadimethoxin or sulfamethoxypyridazin). These are effective in treating animals in the event of sporadic coccidiosis outbreaks which may occur if there is no coccidiostat in the feed, or in the case of development of resistance, or even where the use of a vaccine is ineffective. If widely used, these veterinary medicine alternatives are sensitive to the build-up of resistance and cannot be relied upon for the purposes of standard coccidiostat control programmes. Moreover, they cannot prevent major animal welfare problems occurring, since clinical signs (reduced feed intake, diarrhoea, mortality etc) only occur when the *Eimeria* species are in a late stage of development and the oocysts are largely already excreted, thereby infecting other birds. There are currently no veterinary medicines approved for prevention of histomoniasis.

6.4. Other means

Other possible alternatives have also been tried, such as the use of acidifiers and enzymes or micro-organism suspensions of prebiotics or probiotics to create barriers at the entrance of the digestive tract in order to prevent the infection. Very specialised disinfectants are also used, given that the oocysts are highly resistant to the most widely used disinfectants.

The development of resistance to the oocysts through genetic selection of the animals is also the subject of research, but it seems that there is little immediate prospect of reaching the objective of obtaining resistant breeds in the short term.

So far there have not been sufficient data to support the efficacy of using these other alternative means for prevention of coccidiosis and histomoniasis.

7. CONTRIBUTIONS FROM MEMBER STATES AND STAKEHOLDERS

For the preparation of this report the Commission requested information both from Member States and operators.

Organisations of interested parties who have sent information are: the International Federation for Animal Health Europe (IFAH Europe), the European Feed Manufacturers' Federation (FEFAC), the European poultry producers and traders association (AVEC), COPA-COGECA, le Comité européen de la dinde and the Association of Veterinary Consultants.

Fifteen Member States have provided detailed information and the responses indicate consensus that there are at present no better alternatives to the current regulatory and inspection system in place (MRLs, feed hygiene rules, registration and approval of establishments handling coccidiostats, and traceability) regulating the use of coccidiostats as feed additives.

8. CONCLUSIONS

At the present time, the use of coccidiostats as a preventive measure for the control of coccidiosis in modern poultry production is essential. This practice contributes significantly to the protection of both animal health and animal welfare by preventing a disease that is present on all farms. Production without coccidiostats in the present circumstances in Europe would be very severely economically compromised and the effect of not using coccidiostats would be to deprive EU consumers of access to poultry, turkey and rabbit meat produced according to the high EU safety and welfare standards.

The alternatives mentioned above, as indicated, currently do not offer the same advantages as the use of coccidiostats as feed additives.

Vaccines are species-specific and are not available for all types of animals. The limited veterinary medicines available are used only for healing purposes, and their use for prophylactic purposes could create resistance to them and could also compromise their efficacy as drugs. Both the ubiquity and the permanence of the risk characteristics of the disease make it more appropriate to prevent its occurrence than to treat it.

As regard histomoniasis, since at the moment no alternative treatments exist, the specific category shall be maintained under the Regulation to keep a possibility to authorise future products for prevention of the disease, provided that they meet the safety and efficacy criteria.

The regulatory framework established by Regulation 1831/2003 can therefore be considered as working properly. The Commission believes that it is inappropriate to change the existing situation at the present time and that the current system is well placed to deal with the present situation, as it provides a high level of safety for consumers and adequately protects animal health and welfare and the environment, while providing a fair framework within which operators can do business. The European Commission will continue to monitor the development of new substances and techniques for the prevention of the diseases.

ANNEX

Annex I - Authorisations of coccidiostats and histomonostats as feed additives in Community legislation

Additive	Authorization and expiry dates	Summary of conditions of use

Number	Name of additive	Trade name	Authorisation holder	Date of Authorisation	Expiry date of authorisation(s)	Target species	Withdrawal period	MRL
E 756	Decoquinate	Deccox	Alpharma AS	2004	17.07.2014	Chickens for fattening	3 days withdrawal period	-
E 757	Monensin sodium	Elancoban	Eli Lilly and Company Limited	2004	30.07.2014	Chickens for fattening, chickens reared for laying, turkeys (<16 weeks)	3 days withdrawal period	25 µg/kg skin+fat 8 µg/kg liver, kidney and muscle
5 1701	Monensin sodium	Coxidin	Huvepharma NV Belgium	2007	06.02.2017	Chickens for fattening, turkeys (<16 weeks)	3 days withdrawal period	25 µg/kg skin+fat 8µg/kg liver, kidney and muscle
E 758	Robenidine hydrochloride	Cycostat	Alpharma (Belgium) BVBA	2004	29.10.2014	Chickens for fattening, turkeys, rabbits for fattening	5 days withdrawal period	-
				1999	30.09.2009	Rabbits for breeding purposes	5 days withdrawal period	-

Authorisations of coccidiostats and histomonostats as feed additives in Community legislation (Continued)

Additive				Authorization and expiry dates		Summary of conditions of use		
Number	**Name of additive**	**Trade name**	**Authorisation holder**	**Date of Authorisation**	**Expiry date of authorisation(s)**	**Target species**	**Withdrawal period**	**MRL**
E 763	Lasalocid A sodium	Avatec	Alpharma (Belgium) BVBA	2004	20.08.2014	Chickens for fattening, chickens reared for laying (<16 weeks)	5 days withdrawal period	20 µg/kg muscle 100 µg/kg skin+fat 100 µg/kg liver 50 µg/kg kidney 150µg/kg eggs
				1999	30.09.2009	Turkeys (<12 weeks)	5 days withdrawal period	
E 764	Halofuginone hydrobromide	-		1996	Subject to the provisions of Art 10 § 2 of Reg.	Chickens for fattening, Turkeys (<12 weeks)	5 days withdrawal period	-
E 764	Halofuginone hydrobromide	Stenorol	Huvepharma NV	1999	30.09.2009	Chickens reared for laying	-	-
E 765	Narasin	Monteban	Eli Lilly and Company Limited	2004	21.08.2014	Chickens for fattening	1 day withdrawal period	50 µg/kg all tissues

Authorisations of coccidiostats and histomonostats as feed additives in Community legislation (Continued)

Additive	Authorization and expiry dates	Summary of conditions of use

Number	Name of additive	Trade name	Authorisation holder	Date of Authorisation	Expiry date of authorisation(s)	Target species	Withdrawal period	MRL
E 766	Salinomycin sodium	Sacox	Huvepharma NV	2004	21.08.2014	Chickens for fattening	1 days withdrawal period	5 µg/kg all tissues
				2003	11.11.2013	Chickens reared for laying (<12 weeks)	-	
				2001	31.05.2011	Rabbits for fattening	5 days withdrawal period	-
		Salinomax	Alpharma (Belgium) BVBA	2005	22.04.2015	Chickens for fattening	1 days withdrawal period	5 µg/kg all tissues
E 770	Maduramicin ammonium	Cygro	Alpharma AS	2001	15.12.2011	Turkeys (<16 weeks)	5 days withdrawal period	-
				1999	30.09.2009	Chickens for fattening	5 days withdrawal period	-
E 771	Diclazuril	Clinacox	Janssen Animal Health BVBA	2003	20.01.2013	Chickens reared for laying (<16 weeks)	5 days withdrawal period	-
				2001	28.02.2011	Turkeys (<12 weeks)	5 days withdrawal period	-
				1999	30.09.2009	Chickens for fattening	5 days withdrawal period	

Authorisations of coccidiostats and histomonostats as feed additives in Community legislation (Continued)

Additive	Authorization and expiry dates	Summary of conditions of use

Number	Name of additive	Trade name	Authorisation holder	Date of Authorisation	Expiry date of authorisation(s)	Target species	Withdrawal period	MRL
E 772	Narasin Nicarbazin	Maxiban	Eli Lilly and Company Ltd	1999	30.09.2009	Chickens for fattening, turkeys for fattening	5 days withdrawal period	-
E 773	Semduramicin sodium	Aviax	Phibro Animal Health, s.a.	2006	20.10.2016	Chickens for fattening	5 days withdrawal period	-

Annex II - Estimated EU 27 feed production and use of coccidiostats by segment for 2006

Table : Estimated EU 27 feed production and use of coccidiostats by segment for 2006								
Type of feed	**Volume**	**% use**			**With coccidiostat**		**No coccidiostats**	
	'000 Tns	**coccidiostat**	**Vaccine**	**Blank**	**'000 Tns**		**'000 Tns**	
BROILER								
Broiler starter	3,825	84%	12%	2%	3,290	86%	536	14%
Broiler grower/finisher	13,515	84%	12%	2%	11,623	86%	1,892	14%
Broiler withdrawal	8,160	0%	0%	100%	0	0%	8160	100%
Total Broiler	**25,500**				**14,912**	**58%**	**10,588**	**42%**
TURKEY								
Turkey starter/grower	2,050	97%	0%	3%	1,989	97%	62	3%
Turkey withdrawal	6,150	0%	0%	100%	0	0%	6,150	100%
Total Turkey	**8,200**				**1,989**	**24%**	**6,212**	**76%**
OTHER								
Broiler breeder	2,550	2%	98%	0%	51	2%	2,499	98%
Replacement pullets	2,000	15%	50%	35%	300	15%	1,700	85%
Rabbit	2,400	45%	0%	55%	1,080	45%	1,320	55%
Total other	**6,950**				**1,431**	**21%**	**5,519**	**79%**
TOTAL	**40.650**				**18,332**	**45%**	**22,318**	**55%**

Source: Data compiled jointly by the International Federation for Animal Health Europe (IFAH Europe), the European Feed Manufacturers' Federation (FEFAC) and the European poultry producers and traders association (a.v.e.c.)