



Enhancing Quality Assurance in the animal feed sector – Progress Report no. 4

PREFACE.....	2
1 RISK INVENTORY AND RISK ASSESSMENT	3
1.1 SUB-OBJECTIVES	3
1.2 ANIMAL FEED MATERIALS FOR THE MIXED FEED INDUSTRY	3
1.3 MOISTURE-CONTAINING FEED PRODUCTS AND FORAGE PRODUCTS.....	4
1.4 FEED PRODUCTS AT LIVESTOCK COMPANIES.....	5
2 RISK CONTROL	7
2.1 SUB-OBJECTIVES	7
2.2 REINFORCING THE GMP IN THE ANIMAL SECTOR WITH HACCP.....	7
2.3 CULTIVATION OF FEED PRODUCTS, AND STORING AND FEEDING AT LIVESTOCK FARMS.....	9
2.4 EXPANSION OF THE GMP TO THE CHAIN OF RAW MATERIAL SUPPLIERS.....	10
2.5 RE-CALIBRATION OF THE QUALITY LEVEL OF FEED PRODUCTS.....	11
2.6 MONITORING.....	13
2.7 REINFORCEMENT OF EXTERNAL VERIFICATION AND ENFORCEMENT.....	14
2.8 EARLY WARNING & RESPONSE SYSTEM (EWS).....	15
3 COMMUNICATION.....	16

Preface

The action plan to safeguard quality in the animal feed sector was established in June 1999 and implemented immediately thereafter. The main points of this action plan are:

- application of the HACCP principle in the standard GMP Animal Feed
- upstream extension of quality (safety) assurance to feed materials
- development of an early warning system
- improvement of communication

Since June 1999, three (Dutch) progress reports have been published¹. The publication at hand contains the 4th progress report for this action plan, and now it is available in Dutch and English.

A number of activities are still in progress or will take on a permanent nature. How it will be possible to imbed them in the regular framework with respect to implementation of the quality policy for the animal feed sector is indicated in the conclusions and recommendations.

One important aspect is that in the future the progress of these aspects will be included in the projected annual *integral report* on the progress and results of the sector quality policy in the animal feed sector. This integral report will be begun in the first half of 2002 with the 2001 calendar year as a reference.

In this progress report, the sub-division of risk assessment, risk management and risk communication will be maintained as was established in the previous progress reports. For further background information we refer to the most recent progress report².

Johan den Hartog
Secretary

¹ No. 1: Quality series no. 52 (September 1999), no. 2: Quality series no. 60 (February 2000) and no. 3: Quality series no. 69 (January 2001); Product Board Animal Feed

² Reinforcement of safeguarding quality in the animal feed sector; progress report 3. Quality series no. 69 (January 2001); Product Board Animal Feed

1 Risk inventory and risk assessment

1.1 Sub-objectives

The risk inventory and risk assessment selected by the Product Board is subdivided in two sub-objectives:

- a risk inventory and risk assessment of feed products at sector level from the raw materials producer (primary production and derivative producer) up to the livestock farmer
- a risk assessment of the production process at company level (HACCP) by every company in the animal feed chain (section 3.2).

The risk inventory and risk assessments carried out at sector level are relevant for three reasons.

- They are a solid basis for the companies in implementing their risk analysis within the framework of HACCP at company level and in questioning their suppliers about controlling the critical points in the generation process.
- They give the verifying agencies a handle on the assessment of the companies' quality system based on the HACCP.
- They increase the transparency for the stakeholders of the consecutive links of the animal production chain as far as risk assessment of feed products is concerned.

A summary of the *implemented projects*, an *evaluation* of the progress and results, as well as *conclusions* and *follow-up* actions are given below for this component, subdivided into a) animal feed materials for the mixed feed industry AND b) moisture-containing feed materials and forage products.

1.2 Animal feed materials for the mixed feed industry

PARTIAL PROJECT(S)	IMPLEMENTOR	PERIOD	STATUS	PUBLICATION
Problem substances in animal feed materials with respect to legislation and regulations	Rikilt-DLO	04-06,1999	Concluded	Rikilt-report ³
Risk inventory of livestock feed materials and possible control measures	Rikilt-DLO, TNO Nutrition	07-11,1999	Concluded	Quality series no. 53 ⁴
Risk inventory of feed fats	Schouten Consultation Agency	06-07,1999	Concluded	Internal report
Risk assessment of feed fats	TNO Nutrition	07-09,1999	Concluded	Quality series no. 54 ⁵
Description of mainstreams of animal feed materials and prioritisation	TNO Nutrition Rikilt	11,1999 – 06,2000	Concluded	Quality series no. 64 ⁶
<i>Risk assessments of separate (main) streams of animal feed materials (about 90)</i>	<i>PDV [Product Board Animal Feed] et al.</i>	<i>08,2000 – 12, 2001</i>	<i>Being implemented</i>	<i>About 40 products already assessed</i>
Risk inventory and control measures for the production of 'safe' feather meal and poultry meat meal	TNO Nutrition	8 – 10, 2000	Concluded	TNO report V 3124 ⁷
<i>Set-up and management of databank risk assessments of feed materials</i>	<i>PDV</i>	<i>01 – 06,2002</i>	<i>In preparation</i>	

³ Noordam M. et al., Problem substances in animal feed with respect to legislation and regulations (concept), August 1999; Rikilt-DLO

⁴ Risk inventory of livestock feed materials and possible control measures, Quality series no. 53, (January 2000), Product Board Animal Feed

⁵ Risk analysis of feed fats, Quality series no. 54, January 2000; Product Board Animal Feed

⁶ Global risk analysis of animal feed raw material product groups, Quality series no. 64 (August 2000), Product Board Animal Feed

⁷ Sterrenburg P. et al., Risk inventory and control measures of 'safe' feather meal and poultry meal.

Evaluation

The most important final result of this component is the structure and management of a *Databank of Risk Assessment of Feed Materials (DRV)* in which a *current* risk assessment of all feed products, including the raw materials for the mixed feed industry, are listed.

The following conclusions can be noted:

- The vertical risk assessments of feed materials carried out so far are valuable for the companies as far as their internal HACCP approach is concerned. They clearly fulfil the need for such.
- The implementation of the risk assessment of the remaining feed materials has been delayed, but will be concluded no later than January 2002.
- At this time work is being done on setting up a (digital) *databank*, in which all risk assessments will be included, with a control structure for maintenance (updating on the basis of progressing insight) and distribution.
- The risk inventory related to the production and the use of 'safe' feather meal and poultry meal has not yet led to agreement with LNV [Ministry of Agriculture, Nature Management and Fisheries] about adaptation of the legal restrictions with respect to control of BSE via animal feed.

Conclusion(s) and follow-up actions

- An important impulse has been given to making current risk assessments of the important feed materials available. The risk assessment of the remaining feed materials must be concluded as soon as possible.
- For permanent maintenance (updating) and management, it is necessary to set up a databank and a control structure, which will be concluded in the middle of 2002. The Central Livestock Feed Agency databank software, already restructured in 2001, will be used for this, as well as the functionalities for on-line consultation. The Advisory Committee Animal Feed Sector will be responsible for advising on this, with specific assistance from the (existing) Undesirable Substances Databank Work Group (DOS).
- Continuation of the consultation with LNV about adaptation of the legal restrictions with respect to the use of feather meal and poultry meal based on arguments and also safeguard systems accepted and implementation of the necessary safeguarding systems for feather meal and poultry meal in EC context (see 3).

1.3 Moisture-containing feed products and forage products

PARTIAL PROJECT(S)	IMPLEMENTOR	PERIOD	STATUS	PUBLICATION
Inventory of swill and related products	PDV	03-06, 1999	Concluded	Quality series no. 49 ⁸
Risk inventory of moisture-containing feed products	TNO	10, 1999 – 10, 2001	Concluded	TNO – reports V3123 and V3437
<i>Development and implementation of implementation plan on the basis of risk inventory of moisture-containing feed products</i>	<i>PDV</i>	<i>11, 2001 – 03, 2002</i>	<i>In implementation</i>	
Risk inventory and risk assessment of forage and agricultural products	PDV, HISFA	08, 2000 – 12, 2001	Concluded	Will be included in DRV

Evaluation

The most important final result of this component is that it furnishes risk inventories of moisture containing feed products and forage products.

⁸ Inventory of Swill and related products, Quality series no. 49, July 1999; Product Board Animal Feed

The following conclusions can be noted:

- Implementation of the risk inventory of *moisture-containing feed products* was – after considerable delay due to the large number of products, the complexity of the matter and time needed to collect data – concluded at the end of 2001. The current report offers a solid basis for determination of a number of necessary generic control measures and serves as a basis for the HACCP approach within the companies.
- The risk inventory of forage products has been concluded and has resulted in information useful in practice.
- The risk inventories of both the moisture containing feed products and the forage products were not carried out in accordance with the (HACCP) model used for the feed materials. This means that the results cannot be included in the *Databank of Risk Assessment of Feed Materials (DRV)* without further review.

Conclusion(s) and follow-up actions

- On the basis of the risk inventory, an action plan and monitoring will be set up with respect to (generic) control measures, which must be determined and implemented no later than March 2002. Furthermore, the results of these risk inventories will be brought to the attention of the companies in question along with the action plan.
- The current risk inventories of both moisture-containing products and forage products are established in accordance with the (HACCP) model which has also been used for animal feed products, and will be included in the *Databank of Risk Assessment of Feed Materials (DRV)* no later than the middle of 2002. The Advisory Committee Animal Feed Sector will advise on this project, with specific assistance from the (existing) Undesirable Substances Databank Work Group (DOS).

1.4 Feed products at livestock companies

PARTIAL PROJECT(S)	IMPLEMENTOR	PERIOD	STATUS	PUBLICATION
Quality safeguarding risk inventory of feeding pigs	ID Lelystad	07, 1999 – 6, 2000	Concluded	Quality series no. 65 ⁹
Quality safeguarding risk inventory of feeding milk cows	ID Lelystad	01-12, 2001	In conclusion phase	-
Quality safeguarding risk inventory of feeding poultry	To be determined later	01-06, 2002	In preparation	-

Evaluation

The most important final result of this component is that it furnishes *risk inventories of feed products at livestock companies*.

The following conclusions can be noted:

- The desk study with respect to safeguarding the quality of feed products on the basis of HACCP at pig farms is the basis for a follow-up project focused on setting up a) a GMP code for storage and feeding of feed products at pig farms and b) of an external monitoring program ('trough control') at these farms (see sections 2.3 and 2.6).
- The desk study with respect to safeguarding quality on the basis of HACCP of feed products at dairy companies will be concluded at the end of 2002 and serve as the basis for setting up a) a GMP code for storage and feeding of feed products at dairy farms and b) of an external monitoring program ('trough control') at these farms (see sections 2.3 and 2.6).

⁹ Safeguarding the quality of feed in pigs on the farm; a study on microbiological and biochemical risks, Quality series no. 65 (August 2000), Product Board Animal Feed

- No desk study has been carried out on the safeguarding of quality of feed products at poultry farms. The joint sector committees consider it desirable that a uniform safeguard of quality for storage and feeding of feed products be set up on the basis of HACCP at all livestock farms by the Product Board.

Conclusion(s) and follow-up actions

- The risk inventory of feed products at pig farms is concluded and the one at dairy farms will be concluded soon (January 2002). This will form an important basis for setting up a practical GMP code for storage and feeding of feed products at livestock companies, the final link in the animal feed chain.
- As soon as the risk inventory of feed products at dairy farms has been concluded, it will be published and the set-up will be started –analogous to pig farms – of a) a GMP code for storage and feeding of feed products at dairy farms and b) of an external monitoring program ('trough control') at these companies (see section 3.6). Assessment of the risk inventory will be carried out by the Cattle Feed Sector Committee (SC-R) and the Expert Committee Animal Feed (CvDD).
- In consultation with the Poultry Feed Sector Committee, an inventory of storage and feeding of feed products at poultry farms will be started as soon as possible. On the basis of this – analogous to pig farms – a) a GMP code for storage and feeding of feed products at poultry farms and b) an external monitoring program ('trough control') will be set up.

2 Risk control

2.1 Sub-objectives

In the action plan to reinforce safeguarding quality in the animal feed sector, the following sub-objectives have been established in consideration of risk control:

- reinforcement of the GMP quality system in the different links of the animal feed sector, from raw material products to the animal feed users (livestock farmers) with the HACCP concept: GMP⁺
- expanding the GMP quality system throughout the entire chain from production of and trade in feed materials in every company in the chain on the basis of the HACCP principle, to storage and feeding at the livestock farm
- re-calibration of the intended quality level of feed materials and animal feed products in relation to the (safeguarding of the) human safety (as consumers of animal products), animals and the environment on the basis of the risk assessment carried out
- reinforcement and improvement, where necessary, of the control of (verification and) the maintainability of legal and voluntary quality arrangements in the animal feed chain
- development of an early warning system as a safety net for potential hazards in spite of the preventive approach, in order to detect these and solve them adequately.

It is also indicated in the action plan that, as a result of the risk inventories and risk assessments, supporting activities can be improved or introduced, such as establishing new pre-conditions for the form, completion and use of the PVD databank of undesirable substances in order to increase effectiveness.

2.2 Reinforcing the GMP in the animal sector with HACCP

PARTIAL PROJECT(S)	IMPLEMENTOR	PERIOD	STATUS	PUBLICATION
Quick scan standard GMP animal feed	TNO	07- 08, 2000	Concluded	Quality series no. 58 ¹⁰
<i>HACCP – animal feed sector manual</i>	TNO	08, 1999 - 03, 2000	Concluded	<i>PDV-bundle (03, 2000)</i> ¹¹
Implementation plan for expansion of the GMP with HACCP risk factors	PDV	08 - 11, 1999	Concluded	Quality series no. 56 ¹²
Incorporating HACCP in the GMP Animal Feed standard for mixed feed, single animal feed and feed fats	PDV	10, 2000	Concluded	GMP Animal Feed Scheme bundle
HACCP animal feed training program	IKD, TNO	01 - 07, 2000	Concluded	IKD – course material
<i>Implementation of HACCP in GMP system for suppliers of mixed feed and single animal feed</i>	Companies	10, 2000 – 09, 2001	Still being implemented	<i>PDV – database on web site</i>
Incorporating HACCP in the GMP Animal Feed standard for all other activities ¹³	PDV	06, 2001	Concluded	GMP Animal Feed Scheme bundle
<i>Implementation of HACCP in the GMP system of other companies</i> ¹⁴	Companies	07, 2001 – 07, 2002	Being implemented	<i>PDV – database on web site</i>
Implementation of safeguarded chains of production and processing of feather and poultry meal in the animal feed sector	PDV		Agreement with LNV necessary first	
'Controlling salmonella via pig food' action plan	PDV	01 – 12, 2002	In preparation	

¹⁰ Quick Scan standard GMP animal feed, Quality series no. 58 (January 2000), Product Board Animal Feed

¹¹ HACCP manual for the animal feed sector, March 2000, Product Board Animal Feed

¹² Expansion of the standard GMP animal feed with HACCP risk factors, Quality series no. 56 (January 2000), Product Board Animal Feed

¹³ especially pre-mixtures, raw materials, additives, storage and transfer of feed products

¹⁴ raw materials, additives, pre-mixtures, storage and transfer, transport

Evaluation

The most important final result of this component is that all relevant companies in the animal feed chain apply HACCP in their quality safeguarding system.

The following conclusions can be noted:

- The HACCP manual for the animal feed sector, based on the Codex Alimentarius, became available in March 2000 as a uniform system for implementing risk assessments of feed materials.
- Introduction of HACCP in the GMP system of the *mixed feed industry, the feed fat sector and the suppliers of feed fats and of feed materials* was established and applied in the middle of 2000 and was completed in about 70% of the companies at the end of 2001. The remaining 30% involves especially forage companies, mixed feed dealers and participants abroad (mixed feed materials). It can also be 'blamed' to a large extent on the lack of capacity of the consultation agencies. The intended objective is expected to have been nearly fully completed by the middle of 2002.
- Introduction of HACCP in the GMP system of the other links in the animal feed chain (raw materials, additives, pre-mixtures, storage and transfer) was established and applied in the middle of 2001 and the objective is that this will be completed in practise in the middle of 2002.
- At the moment, an action plan for control of salmonella in pig feed – in addition to the measures related to salmonella in the pig sector – is being developed.

Conclusion(s) and follow-up actions

- The HACCP manual for the animal feed sector has turned out to be a solid basis for a structured approach of the risk assessment of feed materials at the sector level (see section 2), as well as for introduction of HACCP in the companies.
- Introduction of HACCP in the mixed feed industry, the suppliers of feed fats and of single feed products has been delayed, although it must be recognised that the time objective was set very high. From October 1 on the lack of an HACCP certification will be a deviation in the GMP Animal Feed standard, obstructing prolongation of the certification. The basic assumption is that HACCP must be realised at the GMP certified companies no later than the middle of 2002.
- Introduction of HACCP in the GMP system of the remaining links in the animal feed chain (*raw materials, additives, pre-mixtures, storage and transfer, transport*) has recently been taken in hand. The objective must be to have realised its implementation at the end of 2002.
- HACCP is an integral part of the GMP certification. A GMP certification is not (no longer) granted and/or prolonged if the company in question does not meet the HACCP conditions.
- The 'Controlling salmonella via pig food' action plan will have to be established, implemented and concluded in 2002.

2.3 Cultivation of feed materials, and storing and feeding at livestock farms

PARTIAL PROJECT(S)	IMPLEMENTOR	PERIOD	STATUS	PUBLICATION
Development of GMP code for cultivation of feed materials	PDV	09, 2001 – 01, 2002	Being implemented	-
<i>Introduction of GMP code for cultivation of feed materials</i>	PDV	<i>02, 2002 – 04, 2003</i>	-	-
Development of GMP code for storage and feeding of feed products at pig farms	ID Lelystad PDV, PVV	07, 2001 – 03, 2002	Being implemented	-
Introduction of GMP code for storage and feeding of feed products at pig farms	PDV, CBD	<i>To be determined later</i>	<i>In preparation</i>	-
Development of GMP code for storage and feeding of feed products at dairy farms	PDV, PZ	01-06, 2002	In preparation	-
Introduction of GMP code for storage and feeding of feed products at dairy farms	PDV, KKM	<i>To be determined later</i>	<i>In preparation</i>	-
Development of GMP code for storage and feeding of feed products at poultry farms	PDV, PPE	<i>To be determined later</i>	<i>In preparation</i>	-

Evaluation

The most important final result is demonstrable *application of practical GMP control measures by agricultural farmers in cultivation, storage and feeding of feed products*. In this case, safeguarding throughout the entire animal feed chain – from cultivation phase to feeding at the livestock farm – will ideally be completely closed.

The following conclusions can be noted:

- Based on the vertical risk assessments as referred to in section 2.3, a beginning was made in the second half of 2001 to establish a GMP code for cultivation of feed materials, for which a checklist with practical control measures was chosen. Consultation with the agricultural sector is still taking place on the content requirements, the legal design, the manner of control and the implementation trajectory.
- On the basis of the risk inventories carried out in the course of 2001 (see section 2.4), at the end of 2001 it was decided to develop a GMP code for storage and feeding of feed products for both pig and dairy farms.
- In December 2001, the Poultry Feed Sector committee advised also drawing up a GMP code for storage and feeding of feed products at poultry farms – based on a risk inventory (see section 2.4).

Conclusion(s) and follow-up actions

- In the first quarter of 2002 it will be possible to conclude the preparation of a GMP code for cultivation of feed materials, a GMP code for storage and feeding of feed products in pig farms, providing clarity about the content conditions, the legal design, implementation of the control and the implementation trajectory.
- In the first half of 2002 a concept GMP code to be drawn up for storage and feeding of feed products in dairy farms will be validated in a pilot in practise. In the second half of 2002 there will be clarity about the content conditions, the legal design, implementation of the control and the implementation trajectory.
- It is anticipated that a GMP code for storage and feeding of feed products will be established for poultry farms in the second half of 2002.
- Synchronisation of these GMP codes for cultivation, storage and feeding will be carried out with the sector committees in question and the Animal Feed Sector Board of Experts.

2.4 Expansion of the GMP to the chain of feed material suppliers

PARTIAL PROJECT(S)	IMPLEMENTOR	PERIOD	STATUS	PUBLICATION
Development of an additional GMP code for feed fats	TNO, PDV	08 - 12, 1999	Concluded	Quality series no. 57 ¹⁵
<i>Implementation of an additional GMP code for feed fats</i>	<i>Companies</i>	<i>09, 1999 – 07, 2001</i>	<i>Concluded</i>	<i>PDV – database on website</i>
Extension of GMP Animal Feed standard to feed material suppliers	PDV	11, 1999 – 06, 2000	Concluded	GMP Animal Feed Scheme bundle
Control measures for artificial drying of feed materials	TNO TEBODIN	8, 1999–6, 2000 8, 2000–2, 2002	Concluded Being implemented	QC-standard -
Implementation of a GMP Animal Feed standard to feed material suppliers	Companies	06, 2000 – 12, 2001	Being implemented	PDV – database on website
Control measures for cultivation of feed materials with respect to mycotoxins	TNO	08, 1999 - 08, 2000	Concluded	Quality series no. 63 ¹⁶
Addition to GMP for transport of feed materials	PDV, TNO	8, 1999 - 1, 2000 2 - 10, 2000	Concluded	Quality series no. 59 ¹⁷
Tracing and tracking of feed products	DLV / CTO	03, 2001 - 02, 2002	Being implemented	-
Technological process and technological auxiliary materials	TEBODIN	04 - 09, 2000	Concluded	Quality series no. 67

Evaluation

The final result of this action is that the safety of products in the raw material supplier chain is demonstrably safeguarded, at least up to the first link after cultivation, based on HACCP.

The following conclusions can be noted:

- Most Dutch feed material suppliers are already GMP certified or GMP equivalent or their certification is in the conclusion phase. A protocol has been established for GMP equivalence, connecting to the ISO 9001/2 or HACCP certification of companies that already apply. At the end of 2001, 130 companies had registered, and a large number of these have already been verified. It is not possible to realise this verification for all companies before December 31, 2001.
- A standard Quality Control of Feed Materials for Animal Feed, based on the HACCP principle, has been developed for suppliers abroad. A protocol for independent verification has also been drawn up (see section 3.7). At this moment, more than 1,000 suppliers abroad have registered according to the QC standard; a large number of these have already been verified. It is not possible to realise this verification for all companies before December 31, 2001.
- The GMP code for road transport of feed products has been implemented, and a great deal of attention has been given in the previous period to completing the subdivision of the products into the different R&O classifications. At this moment, more than 400 road transporters are certified.
- The specific attention given to technological process and technological auxiliary substances as well as to direct drying has resulted, on the basis of the project carried out by TNO, in inclusion of these aspects as critical points in especially the QC standard. A follow-up study by TEBODIN on concrete elaboration of control measures did suffer somewhat of a delay.

¹⁵ Additional feed fat GMP code, Quality series no. 57 (January 2000), Product Board Animal Feed

¹⁶ Cultivation measures for prevention of mycotoxins. Quality series no. 63 (August 2000), Animal Feed Products Board

¹⁷ Feed product transport GMP; transport by ocean-going vessel, inland navigation and rail, Quality series no. 59 (January 2000), Product Board Animal Feed

- The development of guidelines for tracking & tracing for the mixed feed companies, storage, transfer and trade companies was begun in the beginning of 2001. This is expected to be concluded in the first half of 2002.

Table: Number of GMP certifications per action at the end of 2000 and 2001¹⁸

GMP category	End of 2001	End of 2000
Mixed feed trade and/or production (MH/MHP)	434	350
Pre-mix trade and/or production (VH/VHP)	73	56
Feed products trade and/or production (EH/EH-v/EHP/EHP-v)	518	408
Feed product trade and/or production (GMP equivalent)	16	0
Feed materials and/or (GH/GHP/GH-v/GHP-v)	386	192
Collection	44	28
Production / trade in additives (TH/THP)	0	0
Feed product storage and transfer (OO)	55	33
Transport own road transport (TV)	475	271
Transport professional road transport (TV-bv)	418*	46

Conclusions and (follow-up) actions

- Expansion of safeguarding of quality according to the raw materials chain is somewhat delayed with respect to the scheduled data. However, much has been accomplished – considering the highly international nature of the raw materials supply.
- The basic assumption is that as yet unverified but registered raw materials suppliers have explicitly committed themselves to have verification carried out as soon as possible, though no later than the middle of 2002. Depending on the product group and the time of verification, the product board sets requirements to stricter entry inspection by the receiving companies.
- The project with respect to solidification of control measures for direct drying of TEBODIN should be concluded soon. The results will offer a basis for the companies in applying the proper control measures to direct drying of feed materials. Implementation is expected to take place in 2002. The contextual synchronisation will be effected by the Animal Feed Sector Board of Experts.
- Based on the results of the tracking & tracing project, the manner of implementation will be determined in the first half of 2002. Synchronisation of the performance tracking & tracing will be carried by the sector committees. The contextual synchronisation will be carried out by the Experts Committee Animal Feed Sector.

2.5 Re-calibration of the quality level of feed products

PARTIAL PROJECT(S)	IMPLEMENTOR	PERIOD	STATUS	PUBLICATION
Ban on mammal meal and poultry flesh meal in feed other than for ruminants in production lines / means of transport where ruminant feed is also being produced and/or transported	PDV	07, 1999	Concluded	GMP Animal Feed Scheme bundle
Ban on domestic frying oil and various fat flows such as grease from the trap	PDV	06 – 08, 1999	Concluded	Animal feed legislation bundle
Ban on koalinite with dioxin as additive ¹⁹	PDV	09, 1999	Concluded	Animal feed legislation bundle
Ban on waste water purification sludge as a raw material	PDV	09, 1999	Concluded	Animal feed legislation bundle

¹⁸ one company can have several certified actions

¹⁹ the stipulations adapted by the European Commission in the EC regulations

PARTIAL PROJECT(S)	IMPLEMENTOR	PERIOD	STATUS	PUBLICATION
Maximum content of dioxin in the mixed feed (with exception of fish feed) ²⁰	PDV	10-1999	Concluded	Animal feed legislation bundle
Adaptation of the standard for salmonella in single feed products for poultry	PDV	10-1999 10, 2001	Concluded	GMP Animal Feed Scheme bundle
Maximum content of PCBs in feed fats and mixed feed	PDV	10, 1999	Concluded	GMP Animal Feed Scheme bundle
Maximum content of vomitoxin (DON) in feed grains, derivatives of these and mixed feed	PDV	12, 1999	Concluded	Animal feed legislation bundle
Maximum salmonella incidence in poultry feed	PDV	06,2000 10 – 11,2001	Concluded	GMP Animal Feed Scheme bundle
Minimum specifications for feed fats (PCBs, PACs, mineral oil, etc.)	PDV	11,1999 - 11, 2001	Concluded	Quality series no. 74 ²¹
Minimum specifications for mycotoxins in feed materials and mixed feed	PDV	01, - 10, 2002	In preparation	
Maximum salmonella level in pig feed	PDV	01 – 12, 2002	In preparation	

Evaluation

The most important final result of this action is that action limits and rejection limits are available for the parameters related to safety which could occur in feed products, for which no legal norm is (as yet) available. In this manner, healthy or acceptable commercial quality is uniformly established.

The following conclusions can be noted:

- During the last period, an action limit and/or rejection limit has initially been established on an ad hoc basis for different parameters. At the end of 2001, the national standards for dioxin were replaced by European standards, which will start to apply during the course of 2002. The PCB standards correspond to those applied in Belgium.
- From the end of 1999 to the second half of 2001, systematic work has been carried out on supported action limits and rejection limits for critical components in feed fats. The PAC standards correspond to those applied in Belgium.
- During the last period, the requirements for poultry feed with respect to salmonella incidence have been drastically strengthened in order to contribute to the action plan to arrive at better control of salmonella in the poultry sector.
- Meanwhile, a beginning was made with the preparation of systematically setting up supported action limits and rejection limits for mycotoxins in feed products.
- Within the framework of the 'Controlling salmonella via pig feed' action plan (see section 3.2), establishment of a maximum incidence in feed can be brought up for discussion, if necessary.

Conclusions and (follow-up) actions

- Setting up supported action limits and rejection limits systematically is a time-consuming activity. Support is essential for this.
- The results obtained so far are related to dioxins, animal meal, salmonella and the minimum specifications for feed fats. Where possible, synchronisation and/or harmonisation will take place with other countries in the European Union.
- The systematic (pro-active) approach of drawing up action limits and rejection limits for undesirable substances must be continued with mycotoxins as a first priority. A action plan for this will be established at the beginning of 2002.

²⁰ about which the European Commission has still not made any decisions

²¹ Minimum specifications for Feed fats – GMP Animal Feed standard; Quality series no. 74 (November 2001). Animal Feed Production Board

- It is desirable to publish the current legal and supra-legal (GMP) standards (action limits and rejection limits) in an organised fashion. In addition, it is desirable to check where the current rejection limits can be completed with action limits where necessary.

2.6 Monitoring

PARTIAL PROJECT(S)	IMPLEMENTOR	PERIOD	STATUS	PUBLICATION
Expansion of monitoring feed materials	PDV	Starting 08, 1999	Continuous	Undesirable substances databank (DOS)
Survey of research on components in feed fats	PDV, MVO	08, 1999 – 06, 2001	Concluded	Quality series no.74 ²²
Redesign of undesirable substances and products databank (DOS)	PDV, Q-Ray	10, 1999 – 08, 2001	Concluded	-
Development of quality indicators and measuring methods in feed fats	TNO	10, 1999 – 5, 2000	Concluded	TNO report
Intensification of salmonella inspection within companies in raw materials and poultry feed	Companies	11, 2001	Being implemented	GMP Animal Feed Scheme bundle
Zero measurement (pilot) and setting up monitoring of pig feed GMP at pig farms	ID Lelystad	10, 2000 – 12, 2001	In conclusion	-
'Monitoring salmonella in animal feed sector 2002' program	PDV, Companies	01 – 12, 2002	Being implemented	-
Zero measurement (pilot) and setting up monitoring of dairy cattle feed at livestock farm	ID Lelystad	01, - 12, 2002	In preparation	-
'Survey and monitoring mycotoxins in the animal feed sector 2002' program	PDV	03 – 12, 2002	In preparation	
'Monitoring contaminants in feed fats 2002' program	PDV	01 – 12, 2002	In preparation	
Monitoring contaminants in mineral feed materials 2002' program	PDV	03 – 12, 2002	In preparation	-
Re-formulation of the 2001 monitoring program for 2002	PDV	01 – 03, 2002	In preparation	-
Position paper survey and monitoring program in the animal feed sector	PDV	03 – 05, 2002	In preparation	-

Evaluation

The most important final result of this action is that a *coherent and current monitoring program at company and sector levels*, valid as verification for effectiveness of the control measures taken, is available.

The following conclusions can be noted:

- The sector monitoring program has been further expanded for a number of essential contaminants, or the preparation of it is in a far-advanced stage. For most new additions (salmonella and contaminants in feed fats), the program has been formulated more explicitly on the basis of risk assessment.
- Implementation of the HACCP analysis at the company level leads to expansion of the monitoring at the company level, but big differences in frequency can be detected for this.
- Re-design of the undesirable substances and products has been concluded.

²² Minimum specifications feed fats in standard GMP Animal Feed, Quality series no. 74 (November 2001), Product Board Animal Feed

Conclusions and (follow-up) actions

- It is important to further (digitally) improve the undesirable substances and products Databank (data supply and consultation) and increase the number of participants. For this purpose it is also necessary to draw up a position paper.
- There still is no sector monitoring program based on a risk assessment for all contaminants. This will be done in the first half of 2002, so that the program will have been entirely renovated before 2002. In the first place, attention will be given to components in feed fats and in mineral feed materials, to salmonella in pig feed and mycotoxins in feed products.
- This component is carried out in consultation with the Undesirable Substances Databank Work Group, the Animal Feed Sector Quality Policy Committee and the Animal Feed Sector Board of Experts.

2.7 Reinforcement of external verification and enforcement

PARTIAL PROJECT(S)	IMPLEMENTOR	PERIOD	STATUS	PUBLICATION
Reinforcement of policy framework of animal feed inspection	PDV	01-03, 2000	Concluded	Quality series no. 62 ²³
Renewal of the inspection program	KDD	01-03, 2000	Concluded	KDD-work plan 2000-2001
Development of conditions for implementation of supervision of road transport for professional goods transport GMP Animal Feed standard	PDV	10 – 11, 1999	Concluded	Animal feed transport GMP certification regulations
Development of conditions for implementation of supervision on animal feed materials equivalence GMP Animal Feed standard	PDV	03 – 06, 2001	Concluded	GMP Animal Feed Scheme bundle
Development of conditions for implementation of supervision on GMP Animal Feed standard for feed ingredient suppliers abroad	PDV	03 - 06, 2001	Concluded	Quality series no. 71 ²⁴
Introduction of enforcement of disciplinary law	PDV	10, 2000 – 12, 2001	Being implemented	-
Development of conditions for implementation of GMP regulations abroad (Germany)	PDV	11, 2001 – 04, 2002	Being implemented	-
Further development of PDV animal feed inspection positioning	PDV	11, 2001 – 3, 2002	Being implemented	-

Evaluation

The most important final result of this action is *reinforcement and improvement, where necessary, of the inspection of (verification) and enforceability of legal and voluntary quality arrangements in the animal feed chain.*

The following conclusions can be noted:

- The inspection program has been developed further, but is not yet totally synchronised with the risk assessments and the monitoring program.
- The reinforcement of personnel of the Animal Feed Sector Inspection Service took place in accordance with the planning, but the existing capacity is not sufficient due to additional participation in our own country and the surrounding ones. External experts have been called in for the short term.

²³ Animal feed inspection policy framework reinforcement; Quality series no. 62 (March 2000), Product Board Animal Feed

²⁴ Requirements for foreign suppliers of feed materials. Quality series no. 71 (May 2001), Product Board Animal Feed

For the long term, experience is being gained via a pilot in Germany to call in external certification institutions. As a result of the set-up of a Belgian GMP system, a decrease in Belgian participation in the Dutch standard GMP Animal Feed in the long term is taken into account.

- For specific arrangements (GMP transport, GMP equivalence of animal feed materials and QC standard for raw material suppliers abroad) an implementation model has been developed in the form of different protocols for implementing certification and verification by external institutions. Based on the Protocol Verification Audits Foreign Suppliers of Feed Ingredients, 23 verifying institutions were accepted by the end of 2001. Based on the Animal feed transport GMP certificate Regulations, 8 certifying institutions were accepted. Based on the Animal feed materials GMP equivalence Protocol, a total of 6 certifying institutions were accepted by the end of 2001.
- The introduction of disciplinary law in the animal feed sector has been suspended due to delay of the parliamentary treatment of the modification in the business organisation disciplinary jurisdiction Act.

Conclusions and (follow-up) actions

- In 2002, further expansion of the implementation model with respect to inspection and supervision in the animal feed sector will be given interpretation.
- Supervision on implementation of verification and certification by external institution, in order to enhance uniformity. This will take place in consultation with the Animal Feed Inspection Supervision and Advice Board.
- Standardising the different protocols for implementation of verification as a result of the Quality Control standard and certification based on GMP equivalence and GMP road transport is recommended.
- Even more than before, the annual inspection plan will be based on the risk assessment of feed products and the monitoring program.

2.8 Early Warning & Response System (EWS)

PARTIAL PROJECT(S)	IMPLEMENTOR	PERIOD	STATUS	PUBLICATION
Orientation on the early warning system for the animal feed sector (EWS)	PDV, TNO	1 -5, 2000	Concluded	Internal TNO report
Development of the early warning & response system (EWS)	PDV, TNO	11, 2000 - 12, 2001	Nearly concluded	In preparation
Implementation of the animal feed sector EWS system	PDV	01 – 03, 2002	In preparation	-

Evaluation

The final result of this action is the availability of an operational early warning & response system in the animal feed sector AND an operational network with the other EWS hot-lines in the animal production chain. This system is intended as the safety net for potential dangers in spite of the preventive approach, in order to detect them in time and solve them adequately.

The following conclusions can be noted:

- The development of the EWS system has taken the time required due on one hand to its strictly conceptual nature and on the other due to the necessary co-financing by TNO.
- In January 2002, a script for an early warning & response system (reactive part) for the animal feed sector will be produced.

Conclusions and (follow-up) actions

- The intention is to make the manual for an early warning & response system operational as soon as possible in 2002 within PDV and the animal feed sector.

- A network with the other links in the animal production chain and the government (Ministry of Agriculture, Nature Management and Fisheries/ Ministry of Public Health, Welfare and Sport) will also be set up. Synchronisation of this will be effected with the Animal feed sector Quality Policy Commission (animal feed sector EWS) and with the sector committees (network in animal production chain).
- The first evaluation will be carried out after a year (beginning of 2003)

3 Communication

One sub-objective of the action plan is improvement of the communication with the other links in the animal production and sales chain, social organisations, with the government and with society about the set-up and significance of the quality policy in the animal feed sector based on the solid results achieved.

PARTIAL PROJECT(S)	IMPLEMENTOR	PERIOD	STATUS	PUBLICATION
Setting up a communication strategy	PR land- en tuinbouw [agriculture and horticulture] B.V.	06-07, 1999	Concluded	Management document 11-1999
PDV newsletter	PR land- en tuinbouw [agriculture and horticulture] B.V.	4x per year	Continuously being implemented	Newsletter Feedback
Publication of partial project results	PDV	Permanent	Being implemented	Quality series (see supplement)
Brochure and presentation on renewed quality policy	PDV, TNO, PR land- en tuinbouw [agriculture and horticulture] B.V.	01-02, 2000 06-07, 2001	Concluded	Brochures, power point presentations
TV documentary and video film animal feed sector quality policy	Agrarisch Journaal [Agricultural Journal]	08 – 11, 2001	Concluded	TV broadcasts 11/19 – 23/2001
Expert congress with quality managers in chain of animal feed and animal production.	PDV PR land- en tuinbouw [agriculture and horticulture] B.V.	03, 2002	In preparation	-

Evaluation

The final result of this action is that parties in the chain, social organisations, the government and politicians obtain a complete impression of the set-up and significance of the quality policy in the animal feed sector based on the solid results achieved.

The following conclusions can be noted:

- The necessary initiatives have been undertaken in order to structurally communicate with the community.

Conclusions and (follow-up) actions

- Although no measurements from the different target groups as to what extent the message was understood were taken, it may be concluded from the reactions that the communication is effective.
- It is recommended that the current communication activities be continued at the same level of intensity.
- In the near future transparency about the quality policy will be improved even more for a wider public by the renovated set-up of the website.

Supplement

No.	Title	Period
48	1998 Annual report on Agricultural Laboratory Quality Service	June 1999
49	Inventory of swill and related products	July 1999
50	1998 Evaluation report; Salmonella control in poultry feed	July 1999
51	1998 Evaluation report; Animal meal ban in ruminant feed	July 1999
52	Progress report I animal feed sector quality safeguarding reinforcement	Sep 1999
53	1998 Annual report on the Animal feed sector Inspection Service	Dec 1999
54	Risk inventory of Mixed feed materials and possible control measures	Jan 2000
55	Risk analysis for feed fats	Jan 2000
56	Expansion of the standard GMP animal feed with HACCP risk factors	Jan 2000
57	Additional GMP code for feed fats	Jan 2000
58	Quick Scan GMP Animal Feed Standard	Jan 2000
59	GMP Feed product transport; ocean transport, inland navigation and rail	Jan 2000
60	Progress report 2 on animal feed sector quality safeguarding reinforcement	Feb 2000
61	1999 Annual report on Agricultural Laboratory Quality Service	June 2000
62	Animal feed sector policy framework reinforcement	March 2000
63	Cultivation measures to prevent mycotoxins	
64	Global risk analysis of animal feed raw material product groups	Aug 2000
65	Quality safeguarding of feeding pigs on the farm	Aug 2000
66	1999 Annual report on the Animal feed sector Inspection Service	Sep 2000
67	Safety of auxiliary substances in animal feed	Feb 2001
68	Animal feed raw material GGO situation	Dec 2000
69	Progress report 3 on the action plan for the animal feed sector quality safeguarding reinforcement	Jan 2001
70	Animal feed supplier MINAS arrangement evaluation	Feb 2001
71	Requirements for foreign suppliers of feed ingredients	May 2001
72	2000 KDD annual report	May 2001
73	2000 KDLL annual report	May 2001
74	Minimum Specifications for Feed Fats Technical Work Group Final Report	Aug 2001
75	Animal feed raw material GGO	Sep 2001
76	Enhancing quality assurance in the animal feed sector	Febr 2002