

# COCERAL

The EU Grain and Oilseeds  
traders' association



**“BIOtracer” Workshop**  
**“Prevention of *Salmonella***  
**contamination and spread in**  
**Feed”**  
**Berlin - 29th November 2007**

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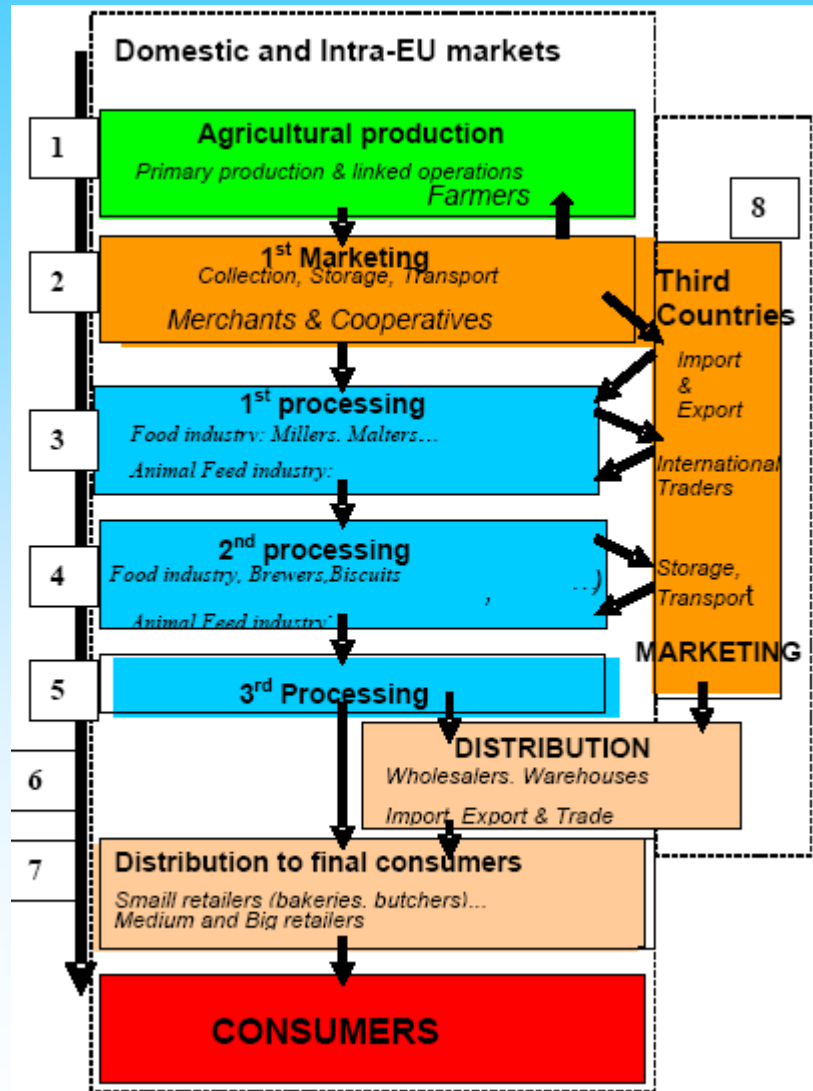
- Committee of Cereals, Feedstuffs, Oilseeds, Olive Oil, Oils and Fats and Agro supply Trade of the European Union
- Founded in 1958
- Represents 33 national associations from 18 member & associates members countries controlling the main stream of EU Grains, Oilseeds, Pulses and their derived co-products trading volumes (including import & export)
- Associates also 1st processing associations (EuroFlour, EuroMalt, EuroMaisiers) and Unistock.
- Main sections dealing with Market and CAP policies, Food & Feed Safety & Environment (*where Salmonella is discussed*) , Rice-Olive Oil-Agro supplies.
- Coceral has developed and implemented since 2000 a COCERAL Code of Good Trading Practice, having more than 300 certified companies, under accreditation process, giving the Trader's answer to the national requests and the EU Hygiene regulations

# Main EU production, import and export data's for Cereals, Oilseeds and their main co-Products

## Some data's on Main EU production and import (estimation 2007)

| Production                                | Production                               | Imports                        | Exports     |
|---|--|--------------------------------|-------------|
| sources: various (Coceral, >cies, Fediol) | in Million tons (EU27) - average figures |                                |             |
| <b>Total Cereals</b>                      | <b>251,4</b>                             | <b>16,3</b>                    | <b>13,1</b> |
| <i>soft wheat</i>                         | 111,6                                    | 3,5                            | 5,7         |
| <i>durum wheat</i>                        | 8,0                                      | 1,6                            | 0,8         |
| <i>barley</i>                             | 57,0                                     | 0,2                            | 6,0         |
| <i>Maize</i>                              | 44,8                                     | 8,0                            | 0,1         |
| <i>other cereals</i>                      | 30,0                                     | 3,0                            | 0,5         |
| <b>Total Oilseeds</b>                     | <b>25,5</b>                              | <b>15,3</b>                    |             |
| <i>Rapeseeds</i>                          | 18,9 (→ <i>abt 9 MT RS meals</i> )       | 0,8                            |             |
| <i>Sunflower</i>                          | 5,6 (→ <i>3 MT SFS Meals</i> )           | 0,5                            |             |
| <i>Soybeans</i>                           | 1,0 (→ <i>0,8 MT SB Meal</i> )           | 14,0 (→ <i>11 MT SB Meal</i> ) |             |
| <b>Main Processed Feeds</b>               | <b>1,5</b>                               | <b>25,1</b>                    |             |
| <i>Soybean meals</i>                      |  | 21,0                           |             |
| <i>DDGS/CGF/maize Distillers</i>          | 1,5                                      | 3,1                            |             |
| <i>CPP (citrus pulp pellets)</i>          |  | 1,0                            |             |

# Role of the TRADE in the Feed Chain



## Characteristics of the Trade Logistic Chain (1)

- More sensitive products for Salmonella contamination are processed oilseeds meals and some oilseeds & cereals co-products (bran, hulls,..)
- Imports of Soybean Meals are the main group of products to be targeted/monitored
- Current main origin is South America, mainly Argentina and Brazil

## Characteristics of the Trade Logistic Chain (2)

- A lengthy logistic chain from South America to Europe:
  - Cultivation of Soybean can be done as far as 3000 km from main export ports
  - Big Size of crushing plants (from 1500 to 20 000 mt/day) mainly located in loading ports in Argentina and inside the country for Brazil
  - Internal transport of beans/SBM by trucks /train/barges for Brazil and Argentina.

## Characteristics of the Trade Logistic Chain (3)

- Port storage and loading facilities sized for handling big volumes of bulk products in short times (vessels loading facilities of 1 to 3000 tm/hour).
- Big storage capacities in loading ports able to load panamax or cape-size sea vessels (from 25 to 75 000 tons) with grains, meal or pellets products and quick rotation
- Local weather often favorable for bacteriological growth in case of contamination

**To cover those various issues Code of Good Practices are now commonly implemented and used in the crushing plants and port facilities.**

# COCERAL members approach to Salmonella : Basic facts

- Salmonella sampling methods are not harmonized
- Regular Analysis methods takes long time (min 5 days) and much more when sero-typing is needed (expensive and very few labs available- Quick methods (PCR) requests expensive equipment and trained staff.
- Few treatment/decontamination methods available :
  - *Heating: not always possible, expensive and deteriorates the quality/digestibility of the products*
  - *Organic Acids: expensive and un-easy to use for bulk shipments*
- Need for more R & D on both sampling and analysis

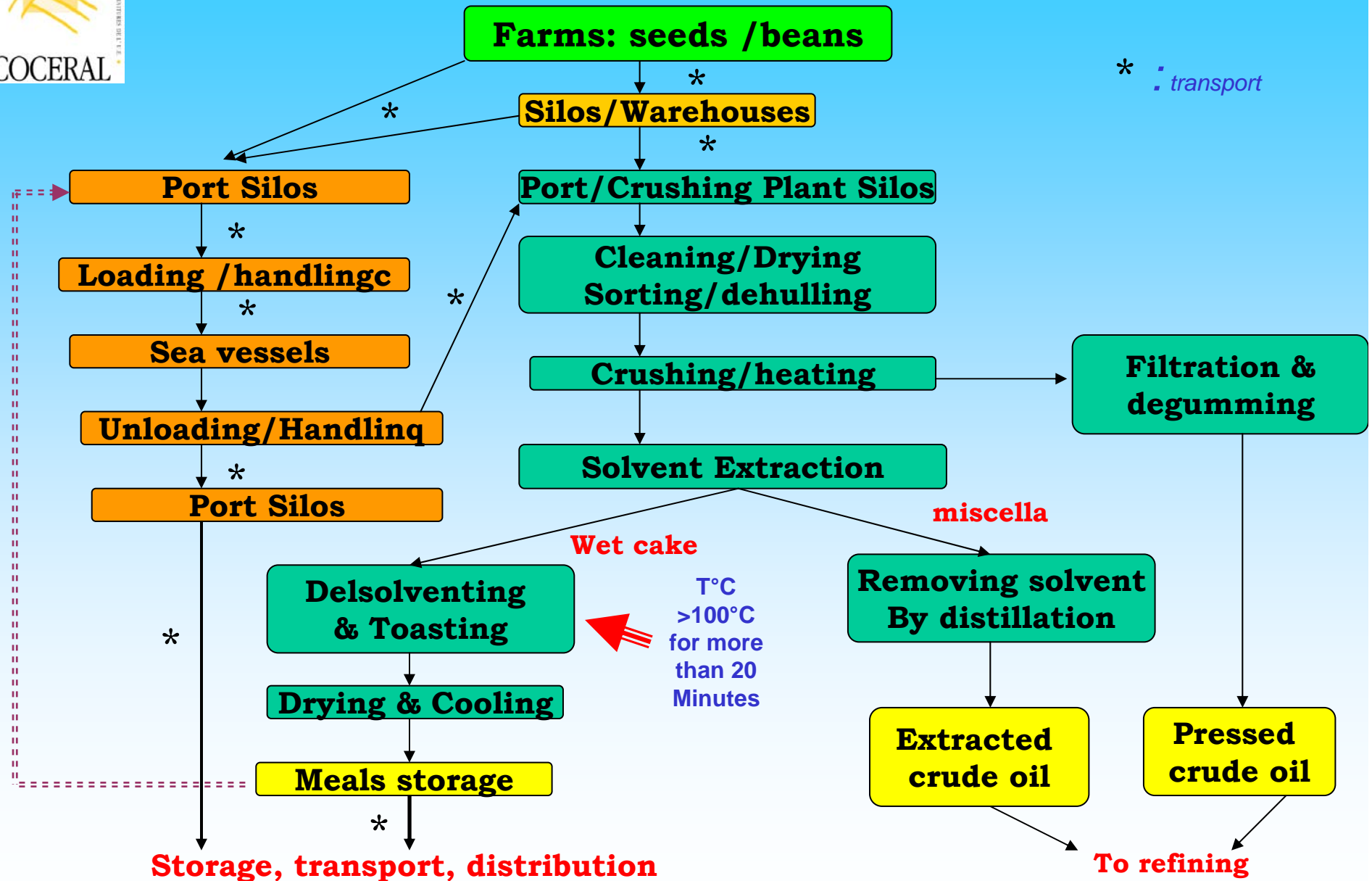
# COCERAL members approach to Salmonella : Basic facts

- Plants, stores, handling equipments, conveyor belts, transports are not designed for easy and efficient cleaning and disinfection
- Grain and Feed trade is based on the functioning of international contracts, with contractual sampling delivering representative samples for bulk loads. If Salmonella has been detected, this does not mean that the entire lot is affected as there is no homogeneous distribution of Salmonella. In addition, reference to Salmonella is usually not part of these kind of contracts.

# COCERAL members approach to Salmonella : Basic facts

- Ports facilities and loading operations cannot totally excluded all risk of contamination by pest and rodents (cf. birds in ports during loading of vessel when hatches are open). It is important to take into account that main feed products (imported) are marketed in Bulk, loading and discharged in the open.
- A zero contamination is mainly impossible as Salmonella is everywhere in the nature (more than 2250 serovars are known)
- Development of Salmonella requires minimum water activity. Moisture commonly present in Oilseed meals usually does not permit correct development of Salmonella (mainly for Soybean Meals) and usually contamination is caused by birds or rodents.
- Salmonella contamination is not a specific CCP at a step of the chain but a constant POA (Point of Attention) which need to be monitored taking into account that results are available minimum 1 week after sampling ..

# Flow Chart of a Typical Soybean Meal chain



# Main steps of the Trade Chain where Salmonella contamination may occur (1)

## 1. In the Oilseeds crushing plant

1.1. Transfer from Toaster (kills all Salmonella at this step) to 1st storage, Dryer and Cooler (dust collectors “filters and cyclones”, water quality, condensation, ...)

1.2. Primary Storage Facilities (condensation, pest and rodents/ birds), handling equipment, conveyors belts

1.3. Personnel

## 2. During the Transport

2.1. Birds & Rodents

2.2. Cleaning of holds (previous cargoes, water leakages,, condensation)

2.3. Loading of vessel's holds in the open

## Main steps of the Trade Chain where Salmonella contamination may occur (2)

### 3. At the discharge Port in the EU

- 3.1. Unloading time at cove or pier with open holds (bird dropping, hold discharge in the open)
- 3.2. Handling equipments for discharge and transport to the port silo (cleaning, birds, rodents) or re-loading on truck/wagon/barge (sometime in open sea) and partials discharge in different ports
- 3.2. Stores (condensation, pest and rodents/ birds), handling equipment, conveyors belts, loading areas, water leakages
- 1.3. Personnel

### 4. Transport and delivery to inland stores /customers

- 4.1. Check cleanliness of trucks, previous cargoes
- 4.2. Birds & Rodents
- 4.3. Cleaning of holds (previous cargoes, water leakages, condensation): checked by independent surveyors having expertise
- 4.4. Personnel and training
- 4.5. Difficulty to check each cargo delivered on customer's means of transport due to duration and cost of analysis
- 4.6. On farm mixing issue vs. Compound feed customers (feed hygiene Reg. does not request HACCP at farm level)

# COCERAL members approach to Salmonella : (1)

- Implementation of HACCP in all steps of the Trade chain
- All actors of the chains are developing/ implementing Guides of Good Manufacturing Practice, Good Trading Practices, Good Handling/Storing Practices including HACCP principles and systematic inspection/cleaning of transports means (LCI –"load Compartment inspection")
- Objectives: monitoring Salmonella contamination and eliminate/reduce it as much as possible
- Separation of high risk materials
- Continuous loop of reporting of results backwards and forward along the chain to ascertain probable source and points of infection

# COCERAL members approach to Salmonella : (2)

- Implement systematic cleaning procedures during all steps (loading, transport, handling, storage)
- Maintenance of all equipments of the trade chain (coverage of all handling equipments to avoid entry of water, rodents, birds)
- Application of Best Hygienic Practices (good Housekeeping)
- Personnel training
- Select suppliers and service providers having implemented adequate Quality Control schemes based on HACCP principles and, if possible, duly certified
- Monitoring of contamination at all stages and adequate procedures for correction.
- Ensure that goods traded are conformed to usual quality standards (moisture..) and produced/handled according to best practices so that risk of contamination is reduced at its lowest possible level.

# COCERAL members approach to Salmonella : (3)

- The RASFF should not report Salmonella contaminations when the serovars detected are not those mentioned in EC. Reg. 1003/2005
- Need to further investigate on link between human/animal health and Salmonella prevalence in Feed, as the relationship is highly debatable.
- Need to set up harmonized sampling procedure and quick analysis tools (avoiding false positive). This should be done in a context of Risk Analysis in accordance with internationally accepted criteria (cf risk identification, management) and need for proportionality of prevention and control measures as well as to risk communication.
- Treatment /decontamination of « contaminated » lots to be economically and practically feasible
- Keep open the possibility to the operator to send contaminated products (which serovars ?») to less sensible species without need for treatment or, to sensible species if killing step is built in further down the supply chain (like pelletizing or heating) and adequate control and monitoring measures are clearly implemented.

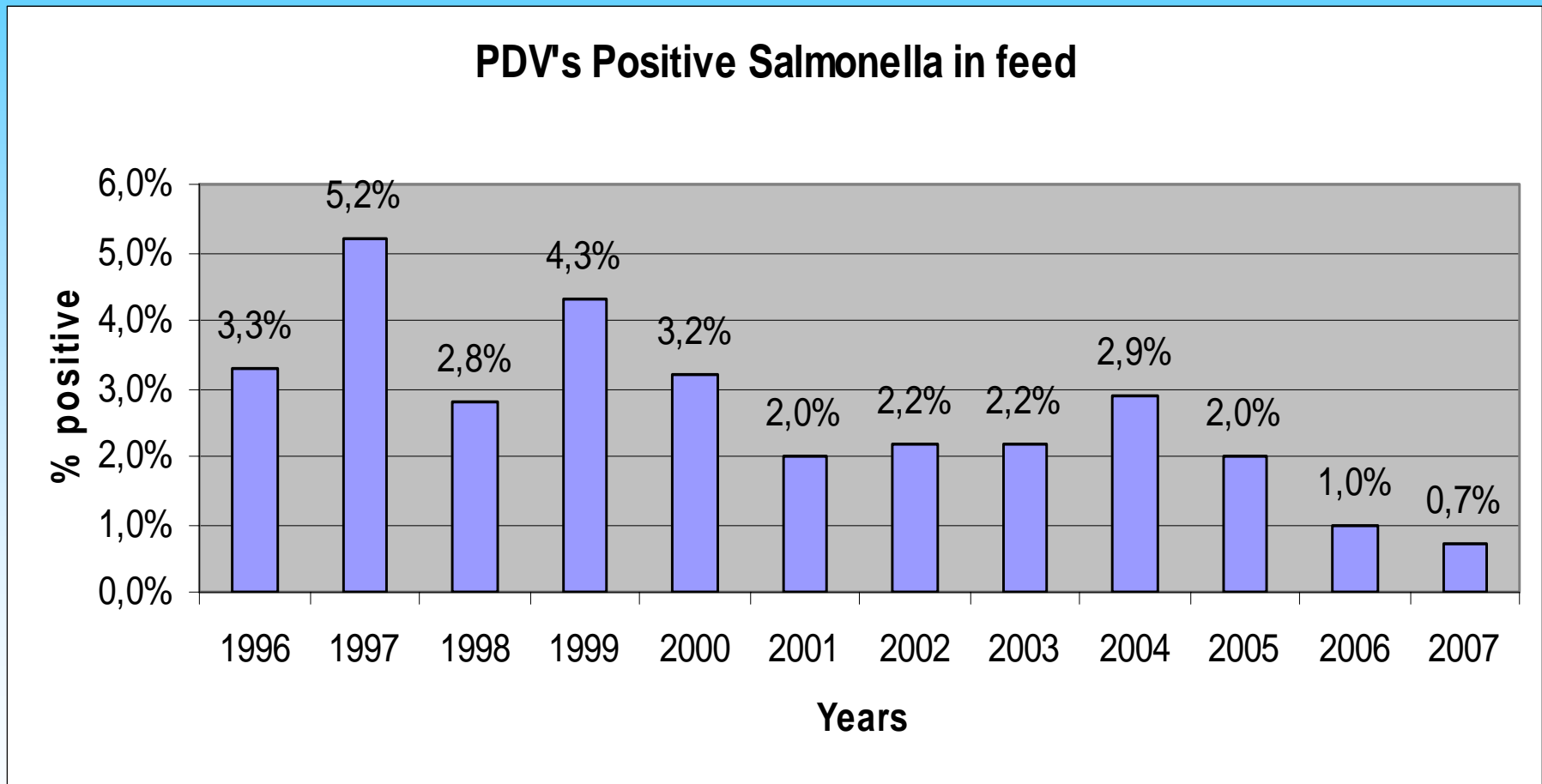
## **COCERAL members approach to Salmonella : Example of existing Good Practice Schemes yet used in the Market including Salmonella control rules (non exhaustive list)**

- Coceral's GTP « Good Trading Practice guide» (includes certification)
- Dutch PDV's GMP+ Standard (mainly all SAM suppliers are GMP B2/13 regularly audited and duly certified)
- GAFTA Trade Assurance Scheme (includes certification)
- Unistock Code of Good Practice of storage of bulk food and feed raw material
- FEDIOL Code of Practice for the control of Salmonella in Feed
- UK DEFRA Code of Practice for the Control of Salmonella
- The EU Feed Compound Industry (via FEFAC) has also various European and National existing Codes/Guides of Practice including Salmonella control procedures

## Some Results achieved during the last years

- Officially available data's on Feed contamination level for Salmonella are very difficult to obtain and often not public (taking into account that many EU MS do not have any specific regulations on such issues). Some data's are available from Dutch PDV and sometimes from French Qualimat enquiries.
- PDV's statistics of all feed/feed materials, all origins, clearly show a slow and regular decrease of Salmonella contamination during the last 10 years, as a result of the implementation of the Good Practice Guides at all level of the Feed Chain. **Such results shows that internal management from concerned stakeholders can achieve goods results without the need of implementing Maximum limits at EU levels.**
- **Harmonized sampling rules and efficient economical quick analysis methods for big bulks loads request more R & D**

# Some Results achieved during the last years



# Various photos of Soybean meal storage and transport :



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