

Dubai International Food Safety Conference

Antimicrobials in Poultry Production

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Producer Responsibilities

As a food supply Company, we have the responsibility for the provision of safe and wholesome food for human consumption.

Laws, regulations, norms and standards are intrinsic elements of our organization.”

Guidelines from WHO, FAO, OIE and Brazilian Government legislation

Microorganisms in the Environment

- **Prevalence of pathogens**
- **Primary production**
- **Bio-security**
- **Prevention-vaccination**
- **Antibiotics**

The use of antimicrobials in poultry production

**Antibiotics: merely
ONE
health management tool**

The use of antimicrobials in poultry production

- Not all animals treated
- When treated:
 - ✓ Medicine
 - ✓ Levels
 - ✓ Withdrawal
- Residues not always present
- When present:
 - ✓ must be below tolerance level

Benefits from the use of antimicrobials

- **Animal Health**
- **Prevention of Dissemination**
- **Animal Welfare**

Concerns about the use of antimicrobials

1) Antimicrobial resistance:

“The use of antimicrobials in humans and in animals may lead to the development of bacterial or viral resistance”

Concerns about the use of antimicrobials

1) Antimicrobial resistance:

Influencing Factors

- Drug concentration
- Exposure

“Low-level, long-term exposure to antimicrobials may have a greater selective potential than short-term, full-dose therapeutic use”

Concerns about the use of antimicrobials

2) Drug residues

Amount of drugs or metabolites in edible tissues

- **Meat**
- **Milk**
- **Eggs**
- **Honey**

Concerns about the use of antimicrobials

2) Drug residues

**Not always residues are bio-available
Not all residues present same toxic effect in humans as parent compounds.**

- **Parent drugs**
- **Metabolites**
- ✓ **Free residues**
- ✓ **Bound residues**

Concerns about the use of antimicrobials

2) Drug residues

- **National & international legislation**
- **Allowed Daily Intake = ADI**
- **Maximum Residue Levels = MRLs**

Concerns about the use of antimicrobials

2) Drug residues

“JECFA has chosen to reduce the risk for the consumers to the absolute minimum by applying a worst case scenario.”

Residues within MRLs not harmful to human health.

Joint FAO/WHO Expert Committee on Food Additives - JECFA

The Nitrofurans Crisis

**Nitrofurans widely used for
animal husbandry worldwide.**

1993: EU ban

The Nitrofuran Crisis

Nitrofurans still widely used as human health medicinal agents in many countries to treat:

- **Skin burns**
- **Intestinal infections**
- **Urinary tract maladies**

The Nitrofuran Crisis

End of 2001 / Early 2002:

**EU detects chloramphenicol and
nitrofurans in imported shrimp / chicken**

Illegal use of drugs

The Nitrofurantoin Crisis

Exporters' official labs assayed

Parent Drugs

EU's official labs assayed

Metabolites

**Importer technology NOT shared
with exporting nations**

The Nitrofuran Crisis

By 2002:

**Exporters banned nitrofurans but
EU product rejection continued
due to alleged presence of
nitrofurazone metabolite residue**

“SEM” = Semicarbazide

The Nitrofuran Crisis

By 2005:

**European Food Safety Agency
points 5 probable sources of SEM :**

- **Nitrofurazone metabolite**
- **Azodicarbonamide (ADA) thermal degradation product (plastic sealant in metal lids of glass pots)**
- **Hypochlorite reaction in food additives**
- **Product of ADA decomposition used in bread making.**
- **Natural presence in yet unknown sources**

Veterinary drug registration system in Brazil

Specific legislation: Registration & Use

Mercosur standards

Common Market of the South

CAMEVET

***Committee of the Americas
for Veterinary Medicines***

Veterinary drug use in Brazil

**Brazilian Ministry of Agriculture,
Livestock and Food Supply – MAPA
established :**

**Application of antimicrobial as
preventive agent (growth promoters)
is banned.**

Veterinary drug usage in Brazil

MAPA

List of legal and banned antimicrobials

**All operations of Brazilian animal
production are subject to compliance
with the National Program of Residue
Control**

Veterinary drug usage in Brazil

MAPA

Actions in cases of violation

- **Levels > MRLs**
- **Banned drugs**

Veterinary drug usage in Brazil

MAPA

Auditing programs

Non announced basis

- **Poultry farms**
- **Plants: pre-mixes and vitamins**

Sadia - veterinary drug control

Auditing programs

- **Feed mills (GMP, HACCP)**
- **Poultry farms**

Monitoring programs

- **Legal and banned drugs**
- **Food contaminants and pesticides**

Sadia - veterinary drug control

International standards in all phases of animal farming.

Veterinarian support to farmers

- **Reception of 1day chick**
- **Transportation to the slaughterhouse**

Sadia

Thank you.