Building the Solutions for Food Safety: Today & Tomorrow

Beatrice Conde-Petit
Food safety challenges and trends.

Hazards

Changing lifestyle

Regulation & standards

Millennials: the new consumers
Innovations for a better world

Food safety

Harnessing science and technology to enable safe feed & food processing across the grain value chain.
Salmonellosis
A widespread foodborne disease

> 100 000 deaths /y globally
Dry plant-based foods

*Salmonella* is the game changer

Safeguard raw material quality

Ensure top hygiene

Implement a trusted kill step
Safe food
Free of Salmonella
Salmonella with antimicrobial resistance (AMR)

> 40% of *Salmonella* from laying hens carry AMR
EU, 2014

AMR to Fluoroquinolones
EFSA and ECDC Report from 28 EU Member states, 2014
Hygiene measures contribute to reduce antibiotics

Safe feed for healthy animals and safe food
Safe feed for safe food
Trusted kill step & hygiene
Designing the feed pelleting process into a trusted kill step.

Hysis

Steam conditioning → Holding time → Process control → Pelleting →

UNSAFE → KILL STEP → SAFE

Uniform processing
Process validation
Continous monitoring
Hygienic design pays off: lower risks and higher cleaning efficiency

HYGIENIC DESIGN

Flaker Mill

Dryer

Accessible
Efficient cleaning

UNSAFE
KILL STEP
SAFE

Bühler NWD 2016
Mycotoxins from fungal molds: A silent threat for humans & animals

25 % of crops contaminated

Deoxynivalenol (DON, Vomitoxin)

Aflatoxin B1
Mycotoxin prevention and reduction needs a value chain approach

Field and harvest
  - Good agricultural practices

Grain handling
  - Drying
  - Cleaning

Transport & storage
  - Safe storage

Milling
  - Cleaning
  - Bran separation

Feed & feed processing
  - ?
  - Feed additives

Mycotoxin prevention and reduction needs a value chain approach.
Consistent reduction of mycotoxin levels in grain cleaning

- Size separation
- Aspiration
- Density separation
- Optical sorting

Mycotoxin level

Target level

Removed affected product (%)
Join the Business Program

BREAKOUT SESSIONS

1. **Feed Safety**
   Animal food production without antibiotics: the role of feed
   Tent 1 to 4
   14:30

2. **Hygienic Design**
   Lowering Risk and Increasing Production

3. **High Capacity Conveying**
   Conveying 3000 Tons of Wheat/h respecting the environment

4. **Mycotoxin reduction**
   Process technologies for enhanced food & feed safety

FOOD SAFETY EXPERT TOUR

Exhibition
14:15
15:05
Innovations for a better world.
Engineering Customer Success