

1st Feed Milling Technology & Trends (FM TT) Seminar 2014

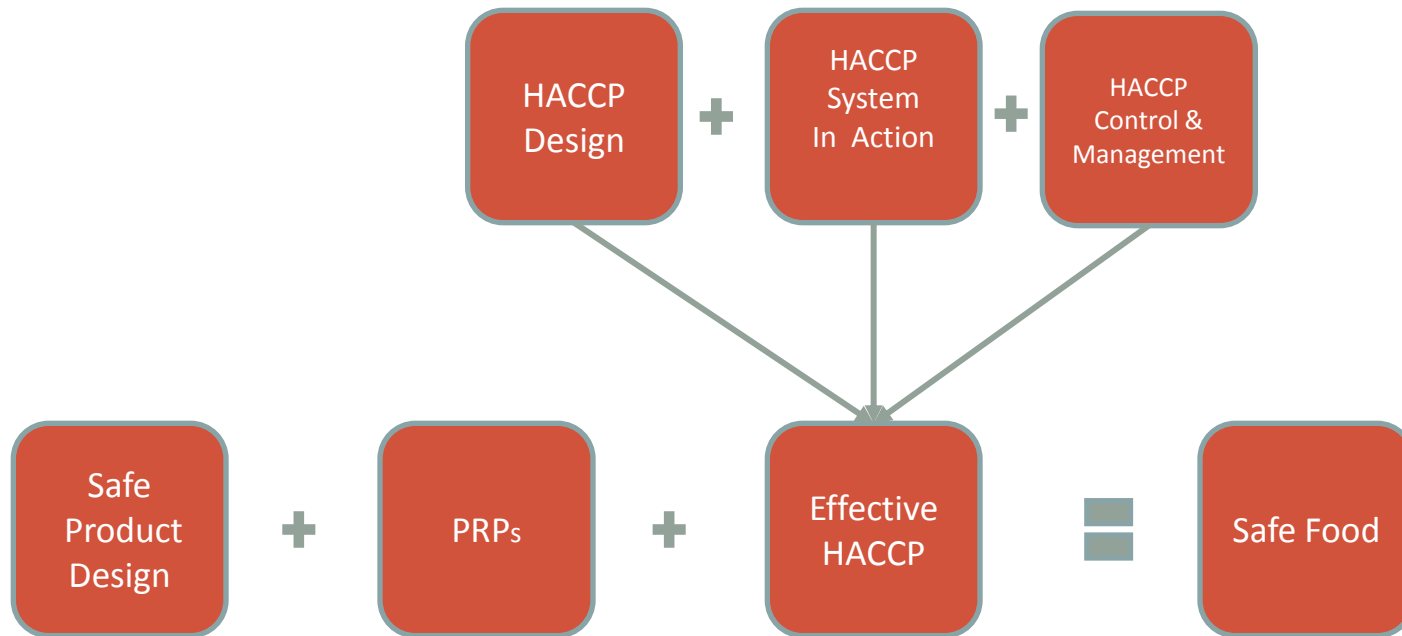
Premixers – Your Brands In Their Hands

Food Safety and Brand Assurance

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Ensuring safe food in the 21st Century

- Current “Best Practice” food safety management systems (FSMS) for ensuring safe food in the human food sector (food service and manufacturing) are based on:-



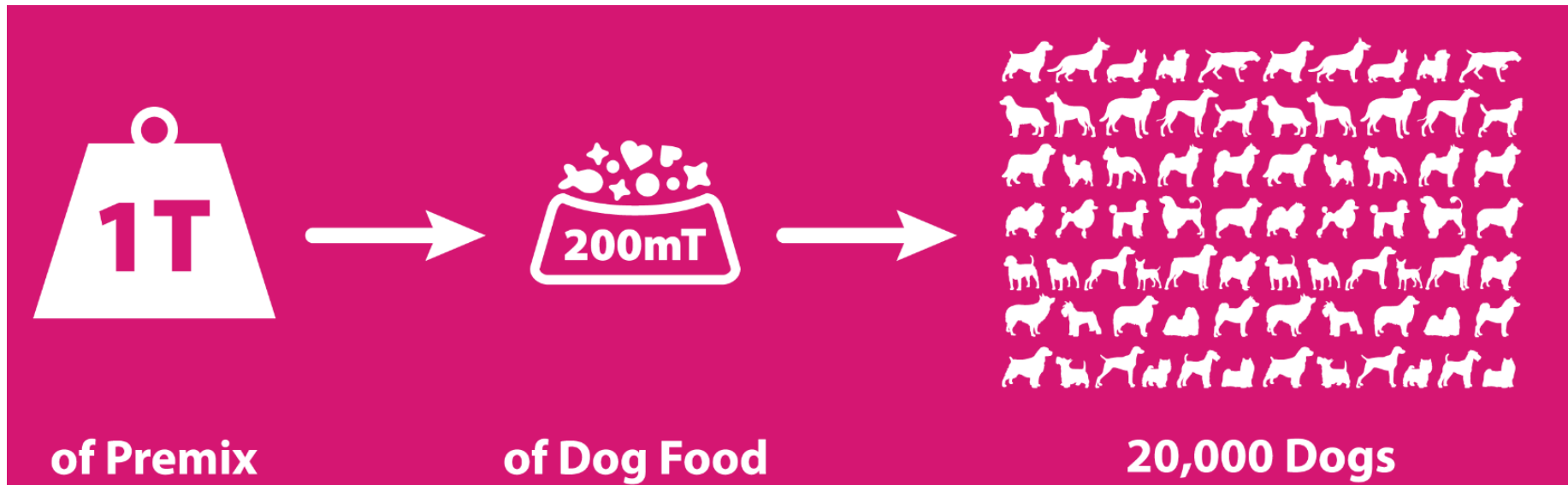
Importance of food safety across the Food Supply Chain



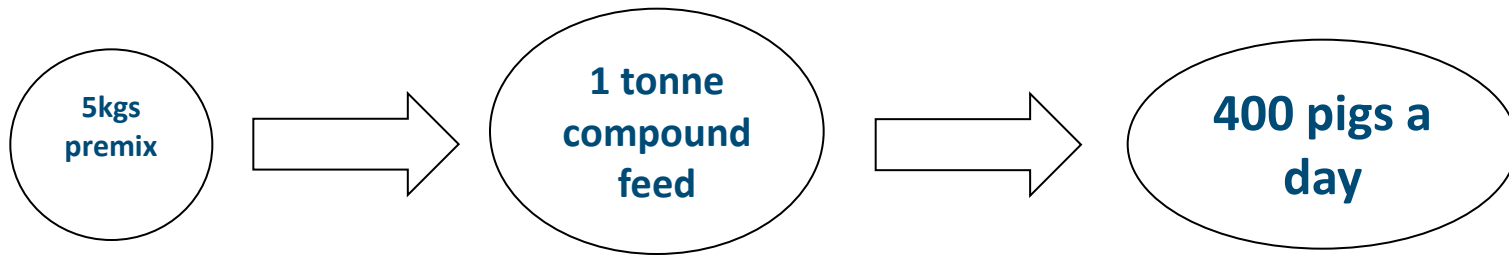
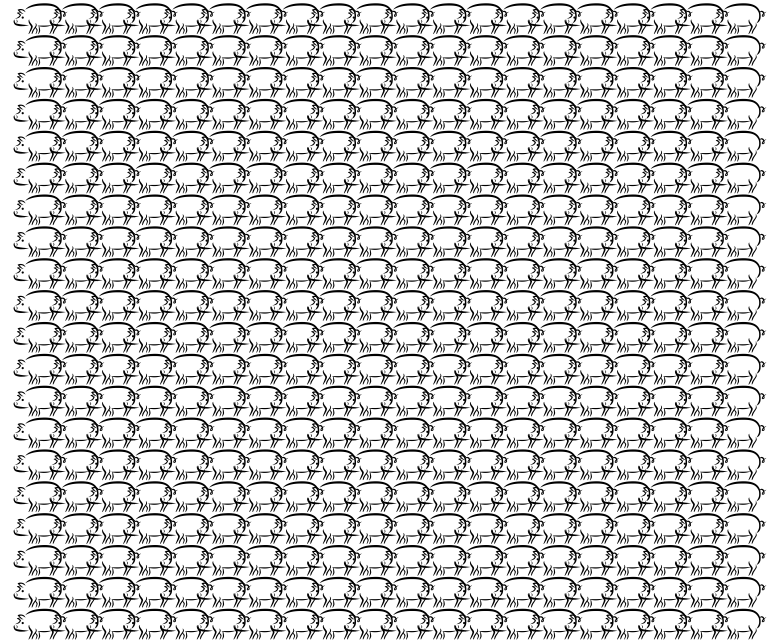
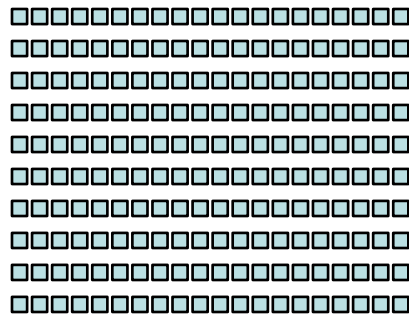
Broken link in food safety chain increases risk of unsafe food

- A break in the FSMS chain anywhere from “field-to-fork” increases the risk that “safe” food will not be produced
- Excess of individual feed additives or contaminated feed additives (e.g. heavy metals) entering the supply chain could cause a failure in the FSMS at:-
 - The premix manufacturer, the compound feed manufacturer **or** both
- Failure at the premix supplier, puts increased pressure on the FSMS at the compound feed manufacturer and might result in illness or deaths if the excess or contamination is not detected and corrective action taken

Effects of breaking the chain in Pet Food

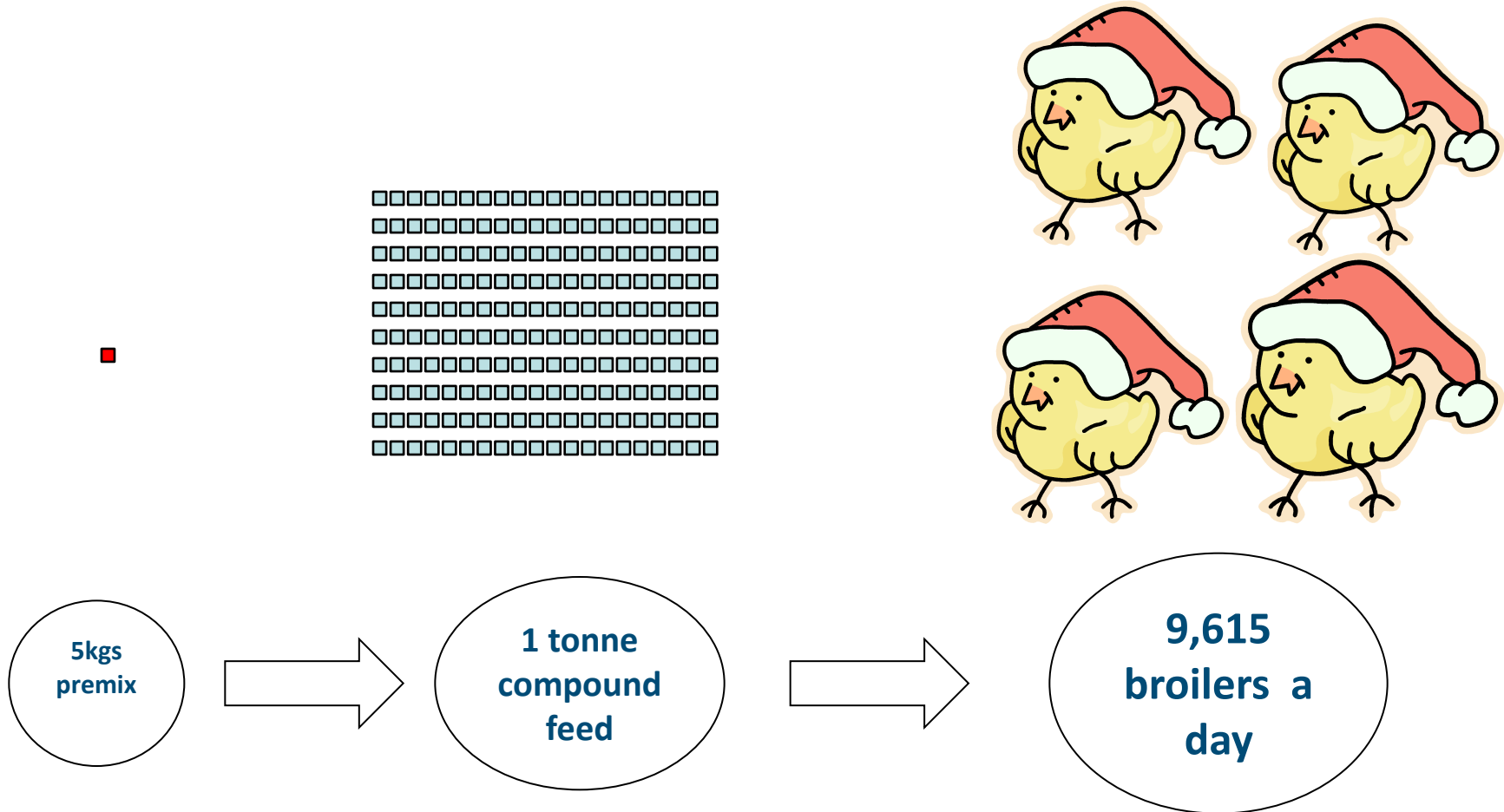


Effects of breaking the chain in human food



400 Pigs feed up to 120,000 Humans

Effects of breaking the chain in human food



9,615 broilers can feed up to 186,000 people

Importance of food safety in the petfood supply chain

Major petfood recalls with potential and proven link to vitamin / mineral premixes food safety ¹			
Year	Product Recalled	Reason	Adverse health affects
1996	Dry cat food; Netherlands	Salinomycin contamination	823 cats acute paralysis; > 100 cats euthanized; 100,000 cats at risk; Failure of pet premix safety petfood premixes manufactured in same plant as medicated poultry premixes
1999 - 2000	Golden Sun Feeds, Inc. Dry dog food	Excess Vit D3	At least 7 dead and 3 illnesses in dogs; Failure of pet premix safety
2001	IAMS Dry dog food	Excess methionine	Illness in 21 dogs; Potential failure of pet premix safety(?)
2006	Royal Canin Veterinary Diet	Excess Vit D3	Illness in 6 dogs and 5 cats; (\$50m class law suit); Failure of pet premix safety

- However, the problem of nutritional non-conformances in petfood has **not** gone away!
- Between 2009 – end Oct 2014, FDA Recalls website reported 20 “voluntary recalls” for nutritional non-conformance eg excess Vit D, low vit B1, equivalent to 18% of all recalls –
These could all arise from pet premix safety failures.

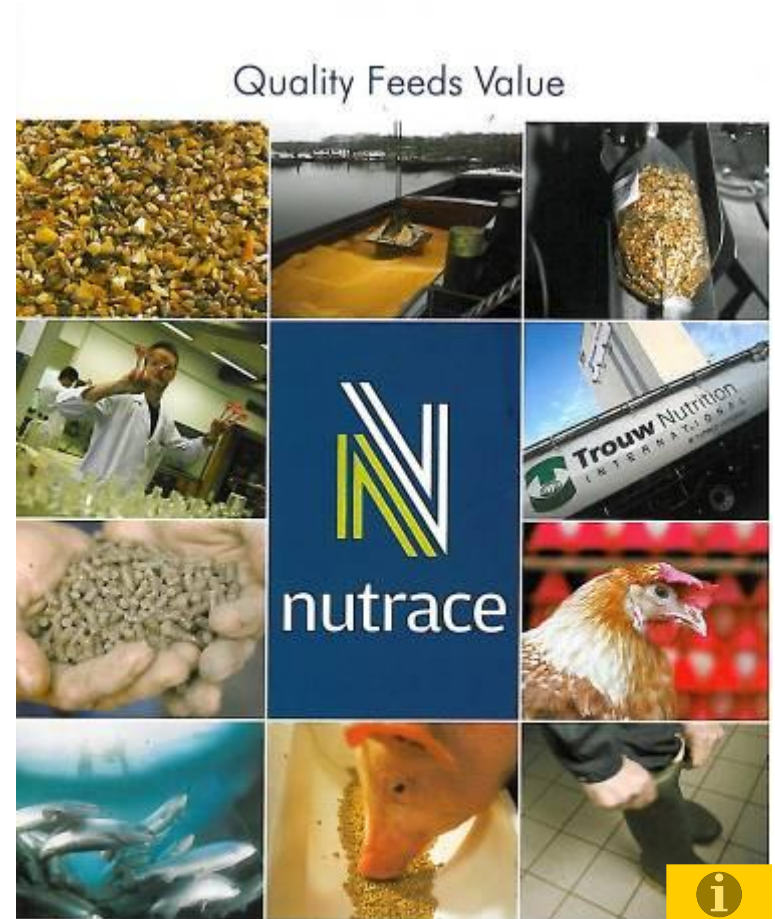
We all care about Food safety but how do we prove it?

- Food safety management systems based on application of HACCP (Hazard Analysis of Critical Control Points) have been used to ensure safe food globally for more than 50 years
- HACCP also provides a food safety management system (FSMS) to ensure “safe” food
- Not only do we need to communicate our confidence to our customers that we produce “safe” food but we also need to be able to prove that we are confident in our ability to supply “safe” food
- One of the aims of external accreditation standards is to provide a recognised, assured, auditable structure that enables companies in the food supply chain to demonstrate to their customers and the consumer that they can trust that the links in the supply chain are unbroken. Accreditation provides a structure not a blueprint. It must be embedded.
- This is the reason why Trouw Nutrition decided to integrate its Nutrace® programme with existing International accredited standards as part of its commitment to food safety

What is Nutrace[®]?

Nutrace[®]:
Nutreco's common
feed-to-food quality
program

Ensures safety and quality
from feed ingredients to
finished products



nutreco

Nutraceutical® Quality Standards

Ingredient Assessment & Management



- Only approved feed ingredients and suppliers are used by Nutreco
- HACCP based risk assessment and management
- Synergy by sharing knowledge and experience among Nutreco businesses worldwide
- “Live system” ensuring risk management processes are global, real-time and able to respond quickly to emerging food safety risks

Name	Title	Hazard group	Hazard name	Relation matrix
Corn	Heavy metals, not specified	Chemical	C - Ions & Elements	Heavy metals, not specified
Organotin	Organotin	Chemical	C - Pesticides	Organotin
Other organic components	Other organic components	Chemical	C - Other organic components	Other organic components
Physical impurities, not specified	Physical impurities, not specified	Physical	P - Impurities	Physical impurities, not specified
Animal protein (same species)	Animal protein (same species)	Physical	P - Animal protein	Animal protein (same species)

Premixing for Pet Foods



Making a Safe Premix

A strong food safety culture is important for getting it right. Trained and dedicated personnel are fundamental to minimize safety hazards at all process steps, from the selection of the finished product. Loss of control at any of these steps...

Ingredient Selection and Assurance

Key words/phrases: global database, source, risk assessment, supplier, manufacturer, combination, ingredient specification, undesirable substances, product quality agreement, analytical assessment, monitoring.

The creation of an ingredient specification by the premix company provides a standard to which ingredients must conform. Using this standard a product quality agreement can be made with suppliers to ensure that all selected ingredients, regardless of supplier and source, conform to the specified requirements. Because premixes are added at different quantities and stages of production...



Premixing for Pet Foods



Designing a Premix

Key words/phrases: homogeneous, uniform, particle size

Designing a premix of uniform size (figure 2) requires the following characteristics and that influence stability and dispersion. We take measures to minimize negative effects:

- Particle size
- Particle shape
- Density
- Electrostatic charge
- Hygroscopicity
- Flowability



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Conclusion

- You are only one link in the chain – others can break it.
- Premix is not a commodity – do not buy it without safeguarding against the risks
 - A cheap premix might be an expensive recall
- External accreditation can offer independent assurance but is food safety the embedded culture of your supplier?
- You place your brands in the hands of premixers
- Build a relationship and make sure they are not “The Weakest Link” !