

## Feed Industry Structure and the Role of HACCP

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The feed industry is an integral part of animal protein production:  
meat, milk, and eggs.

## Animal Protein Production Process Flow

Grain handling  
Infrastructure

Animal  
production



Crop production  
source of protein  
& carbohydrates

Formula feed  
manufacturing

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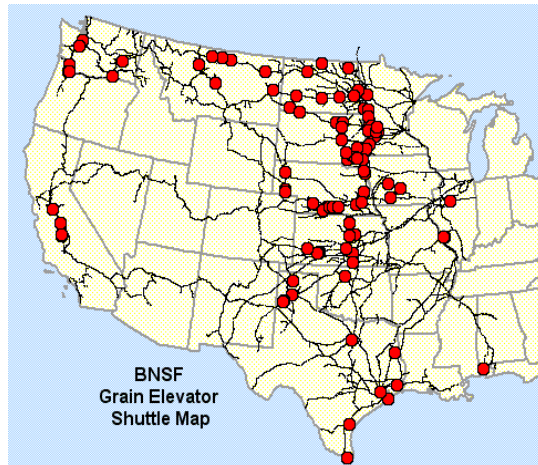
## Strategies for Competitiveness

- ❑ Overall cost leadership
- ❑ Differentiation
- ❑ Focus

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Map of inland terminals in the Burlington Northern Santa Fe railroad.  
(Source: <http://www.bnsf.com/business/agcom/elevator/shuttle/shuttle.html>)

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## Generic Strategies: Differentiation

**Differentiation – creating something that is perceived industry wide as unique**

- Creates brand loyalty and lower sensitivity to price
- Sometimes precludes gaining a higher market share
- Implies tradeoff with cost
- R&D, higher quality materials, or customer support

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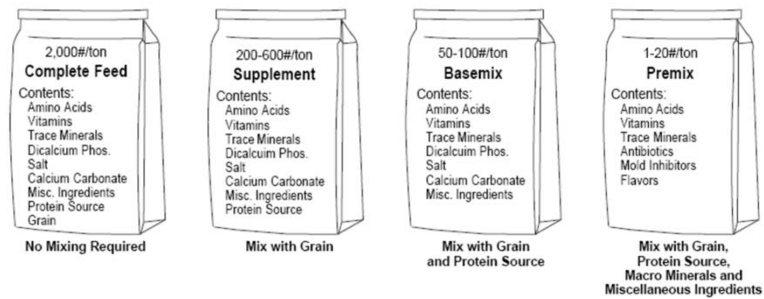
## Generic Strategies: Focus

**Focus on a particular buyer group, segment of the product line, or geographic market**

- May mean low cost position
- May mean high differentiation
- May involve cost and differentiation

## Feed Industry Product Structure

Figure 1. Feed Type Profile Sheet



Armstrong and Behnke

(Source: <http://www.oznet.ksu.edu/library/grsci2/mf2056.pdf>)

## Feed Industry Product Structure

### AAFCO Model Feed Bill Regulation

#### 3. Label Information

Required guarantees for swine formula feed:

- Pre-starter
- Starter
- Grower
- Finisher
- Breeders
- Lactating

Broilers: starting/growing, finisher, breeders

Beef Cattle: calves, cattle on pasture, feedlot cattle

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## Food Regulatory Structure in US

The FDA's Center for Veterinary Medicine is the federal regulatory entity that provide regulatory oversight for feed.

- Licensed feed mills (Category II Type A)
- Licensed under the Bioterrorism Act of 2002 and now required every other year (FD&C Act section 415).

States also regulate feed under state authority

- Over 1000 licensed feed companies with the Texas Feed and Fertilizer Control Service.

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## Global Feed Industry Structure

- ❑ World population and GDP growth driving meat consumption, more meat means more grain ... feed demand and animal feed supplements are rising
- ❑ Global customers have greater buying power and feed grain raw material prices have been favorable ... but changes are in store for the global poultry and livestock industry ... the result of the boom in ethanol and biodiesel production
- ❑ Health and food safety concerns are putting pressure on better quality feed ingredients
- ❑ There is growing concern with environmental issues in animal agriculture

(Slide by IFIF 2006) 13

## Equivalency

- ❑ HACCP adoption by the feed industry is mandated in some countries
- ❑ CODEX Good Animal Feed Practices

The code includes segments related to pathogen control and disease prevention including traceability, health hazards associated with animal feeds, sanitation and pest control, hygiene during feeding, on-farm feed manufacturing, and sampling and analysis.

“Where appropriate, good agricultural practices, good manufacturing practices (GMPs) and, where applicable, Hazard Analysis Critical Control Point (HACCP) principles should be followed to control hazards that may occur in food.” (Section 4)

(Source: [http://www.codexalimentarius.net/download/standards/10080/CXC\\_054\\_2004e.pdf](http://www.codexalimentarius.net/download/standards/10080/CXC_054_2004e.pdf))

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## Equivalency

- The global feed industry is becoming increasingly concentrated due to economies of scale
- Globally, the demand for animal protein and the feed required to produce meat, milk, and eggs will increase
- The global feed industry is gravitating toward the adoption of HACCP

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