

Disruptive Innovations in Milk Production

A US Producers Perspective

Dairy Disruptors!

Supply

Pricing

Cost

Markets

Supply Disruptors- Wide Spread Adoption of Genomics and Sexed Semen

- Genomics
Accelerated genetic progress
- Sexed Semen
Heifer market is saturated, price is soft
- Beef Crosses
Beef prices remain depressed
- DNA selection
Specific Production traits, a2, Cheese yield

Supply Disruptor Large Dairy Done Right

- Excellent animal care
- Employee training
- Environmental compliance
- Quality milk
- Direct contracts
- Community involvement

Pricing Disruptors Government Involvement/Pressures

Tariffs	Labeling	Labor	Milk Pricing
Tariffs/Trade HELP!!	Milk labeling Plant based Fake milk	Labor regulations <ul style="list-style-type: none"> Obama care?? "The Wall" OSHA ICE 	Federal Orders <ul style="list-style-type: none"> Class 1 sales being nationalized Shift in Milk Production regions

Cost Disruptors Social Pressures





Market
Disruptor
New
Competition

- We have lost our share of the stomach
 - Plant based
 - Teas
 - Belly wash
 - Coffees
 - Soda
 - Energy drinks
 - WATER
 - Fake Milk
 - Fake Meat
 - Packaging size



Market
Disruptor
Consumers are
Confused

- Labels:
 - Plant based milk
 - a2- Protein
 - Gluten free
 - Non-GMO certified
 - Fairtrade certified
 - Validus certified
 - Humane Certified
 - Organic
 - Grass fed
 - Regenerative ag
 - Atkins approved
- Processing differences:
 - Ultra filtered
 - HTST
 - ESL
 - UHT
 - Non-Homogenized



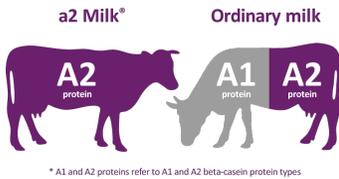
Why a2 Milk®?



- What is pure?
- What's the difference?
- Who cares?



a2 Milk®: 100% Real Cows' Milk

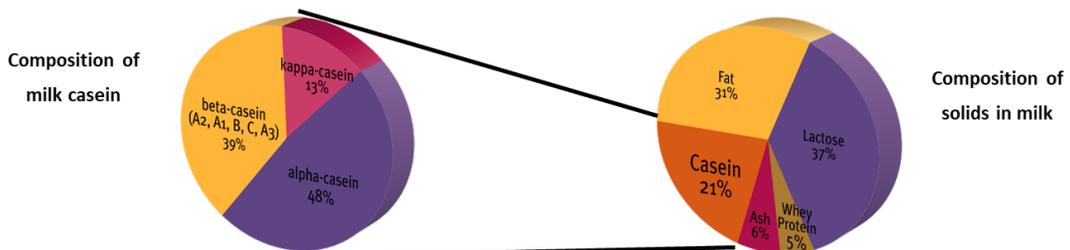


- Easier on digestion and **may** help some avoid discomfort
- A1 protein free
 - Ordinary cows' milk naturally contains a mix of A1 and A2 protein types
 - a2 Milk® comes from cows that naturally produce only the only the A2 protein and no A1
- Published research suggests that a2 Milk® may help avoid stomach discomfort in some people
- From cows not treated with growth hormones, rBST or antibiotics
- Farms are certified by Validus, a leading independent animal welfare auditor



What is beta-casein?

- About 30% of the protein in cows' milk is beta-casein
- Transports essential minerals and nutrients such as calcium and phosphorus
- There are genetic variants of beta casein; A1 and a2, with minor variants either classed as A1 or a2-like
- When digested beta casein can produce a range fragments with well characterized biological activity



How Did it Start?

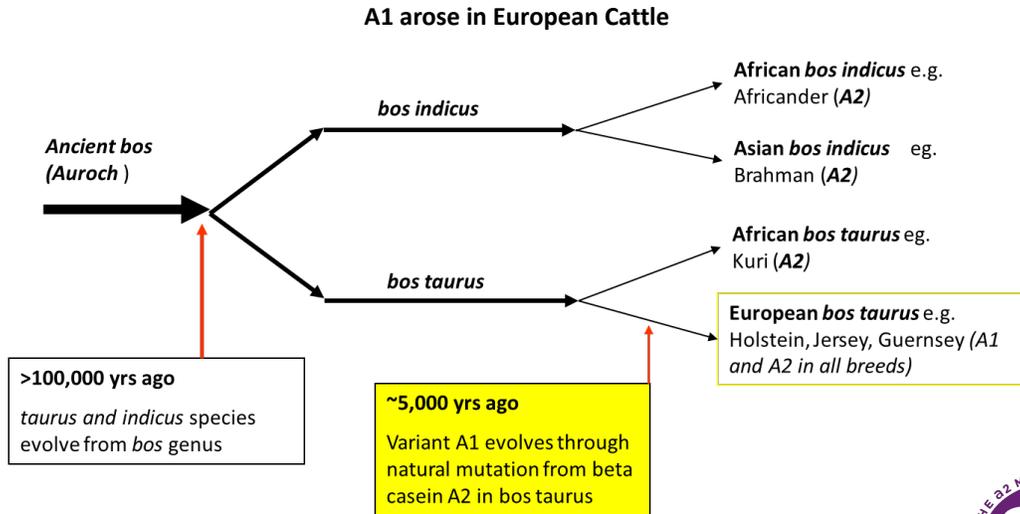
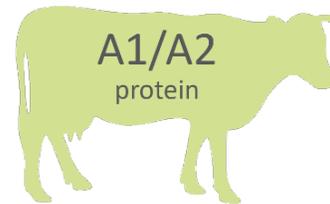


Figure adapted from information reported in:
 1. Advanced Dairy Chemistry: Volume 1 - Proteins, Second Edition, edited by P.F. Fox and P. L. H. McSweeney pp 424 & 430
 2. MILK PROTEIN POLYMORPHISM: DETECTION AND DIFFUSION OF THE GENETIC VARIANTS IN BOS GENUS, Annali della Facoltà di Medicina Veterinaria, Vol. XX, 1999. Università degli Studi di Parma
 3. Daniel G. Bradley, Ronan T. Loftus, Patrick Cunningham, David E. MacHugh (1998) 'Genetics and domestic cattle Origins' Evolutionary Anthropology V6:3 pp79-86



How it works – Genotypes of cows



The a2 Milk Company™

Our vision to be the innovative and smart choice for dairy nutrition Our ambition to be the most admired and commercially attractive dairy nutritional company Our purpose as the a2 Milk™ pioneers we are determined to help people enjoy [healthier and] better lives.



Current Geographical and Product Overview



New Products & Markets



Questions?

