The Freeze Dried Phenomenon: Next Stop Europe
Next Stop Europe

What
Pathogens

Why

Future
How

Market
What is Freeze Drying?

- Extracting moisture without the use of heat to create a shelf stable product.

- Create a vacuum to allow water to boil at temperatures below freezing.

- It’s a natural form of drying
The Process - Simplified

-40°C

Frozen Meat (Ice)

Create a vacuum

Water Vapour

-60°C

Ice (Solid)

Recapture H2O
Batch process like an oven
Labour intensive
Flexible volumes
Flexible sizes
FD Cycle: 20 – 24 hours

Continuous Production Line
Very efficient with large runs
Lower energy usage
The future if growth continues
FD Cycle: 4 – 6 hours
Why Freeze Dried?

- Maintains nutritional value
- Less damage to the product
- Easier to rehydrate
- Maintains flavour and smell
- Maintains nutritional value
The Freeze Dried Pet Food Market

*USA Focus*

- Maria Lange from GfK at Pet Food Forum 2015: “The next big thing...”
- Fastest growth rate in pet food industry
- Many large brands looking to add a Freeze Dried range to their offering
Forms of Freeze Dried

• **Treats**
  - Normally single ingredient
  - Liver and heart are very popular
  - Trend towards functional treats

• **Food**
  - Complete and Balanced
  - Convenient form of frozen RAW

• **Toppers**
  - Mix with kibble to improve palatability and nutritional value

• **Kibble Plus**
  - Mix of Dry Kibble and Freeze Dried Raw
  - Fastest growing category
Evolution of the Freeze Dried Market

- **Premiumisation**
  - Small Dogs
  - Dr Google
  - Real Food Revolution

- **Phenomenal Growth in NATURAL category**
  - Grain Free
  - Prey Diets
  - High Meat
  - Raw Food Revolution

- **Freeze Dried**
  - Treats
  - Complete Food
  - Toppers
  - Kibble Plus
WHY THE POPULARITY?

Convenient REAL Food
The Freeze Dried Market

USA Pricing: $60 to $70 per kg
The European Freeze Dried Market

Euro Pricing: €65 to €112 per kg

Approximately 20% more expensive than the USA market
## Cost to Feed: Cost per 1,000 calories*

<table>
<thead>
<tr>
<th>Food Category</th>
<th>Cost per 1,000 calories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium Kibble</td>
<td>€1.50 - €2.00</td>
</tr>
<tr>
<td>Dehydrated (Heat)</td>
<td>€4.25 - €7.00</td>
</tr>
<tr>
<td>Premium Canned</td>
<td>€5.50 - €8.50</td>
</tr>
<tr>
<td>Frozen Raw</td>
<td>€4.50 - €9.00</td>
</tr>
<tr>
<td>Premium Freeze Dried</td>
<td>€11.00 - €18.00</td>
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### USA Market

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But what do they need to
Thrive not just Survive?

Nutrient value and digestibility are key:

Freeze drying maintains nutrient value providing health via food.

A high meat based diet in its natural state is proven to be highly digestible
- the dog is able to digest more calories and more nutrients.

Freeze dried should be used to boost protein levels, nutrients, digestibility and palatability.

Due to price we see the largest market niche for freeze dried is as a nutrient dense “meal mixer” or “topper”.
## Affordable Feeding: Premium Kibble and Freeze Dried Meal Mixer

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<tr>
<td>80% Kibble / 20% FD Meal Mixer</td>
<td>€3.40 - €5.20</td>
</tr>
<tr>
<td>Dehydrated</td>
<td>€4.25 - €7.00</td>
</tr>
<tr>
<td>Premium Canned</td>
<td>€5.50 - €8.50</td>
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Freeze Dried Meal Mixer
*Perfect for Superfoods*
Can the cost of Freeze Dried be reduced? **YES**

- Raw Material
- Pre Production
- HPP
- Freeze Drying
- Transport
- Source from EU
- Scale Simplification
- Scale
- Scale Continuous Process
- Production close to Raw Material
Managing Pathogens

**HEAT PASTEURIZATION**
- Uses heat to kill pathogens
- Well recognised and reliable
- Cost effective
- Can’t use RAW marketing claim
- Can reduce some of the nutrient benefit

**HIGH PRESSURE PASTEURIZATION**
- Uses pressure to kill pathogens
- Technology not as well recognised
- More expensive and inefficient
- Can use RAW marketing claim
- Becoming the market standard in industry
Managing Pathogens
*The most important issue*

Start with the cleanest product possible

The cleanest product comes from

- Free range red meats
- Barn raised poultry in a controlled environment
- Sustainably farmed or wild caught fish

INTENSIVELY FARMED MEAT AND FISH IS OF HIGHER RISK
Next Stop Europe

• “It’s the next big thing...”

• Ideally suited to providing a nutrient boost especially with Superfoods

• Infused with kibble or meal mixers is forecast to be the bulk of the market

• Scale is important

• Managing Pathogens is vital.