

International Rendering Symposium

# Global Antioxidant Supply

February 2, 2024



# Agenda

International  
Rendering  
Symposium

01

Global Trends

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02

Regional Trends

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03

Individual Antioxidants

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**Manufacturer** of specialty chemicals and natural ingredients. Largest producer of BHA and TBHQ antioxidants in the world

**Total solutions** tailored for a wide range of industries

**Global** with sales, research, manufacturing facilities and customer application laboratories, across 4 continents.

**Driving science** through research, innovation, technology, people expertise and services.

**Vision** to be vertically integrated and sustainable in everything we do

# Antioxidants Delay Oxidation

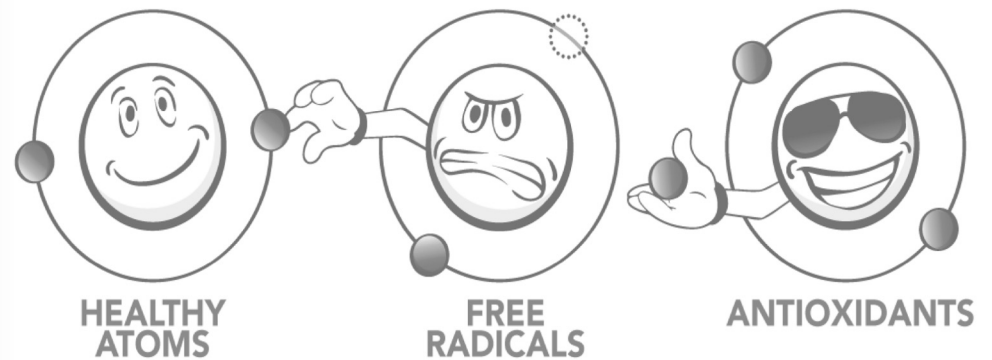
For Rendered Products, Pet foods, Animal Feeds

## Oxidation

- Fats & Oils become rancid
- Occurs naturally over time

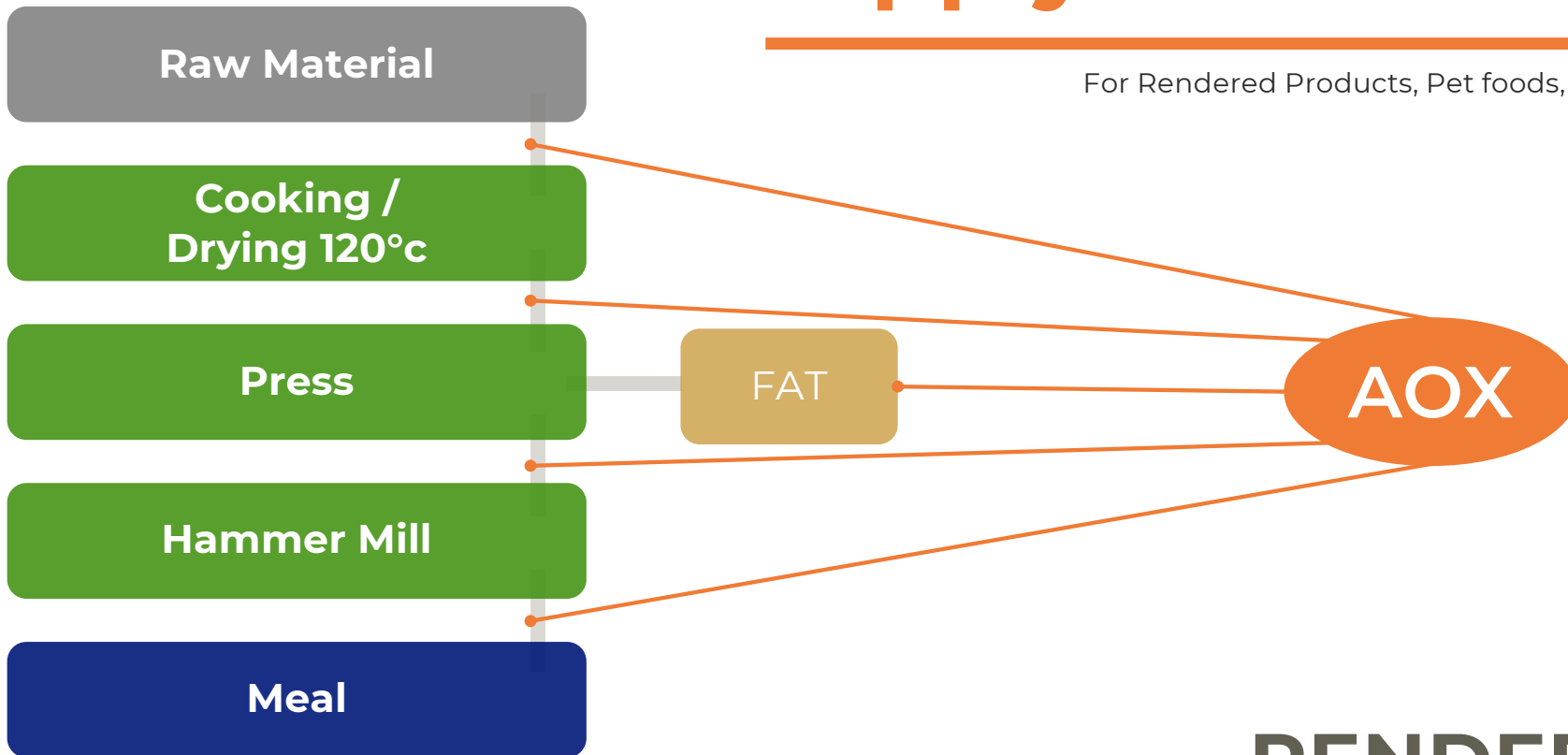
## Accelerate

- Oxygen
- Heat
- Light
- Heavy metals
- Microorganisms



# Apply Antioxidants

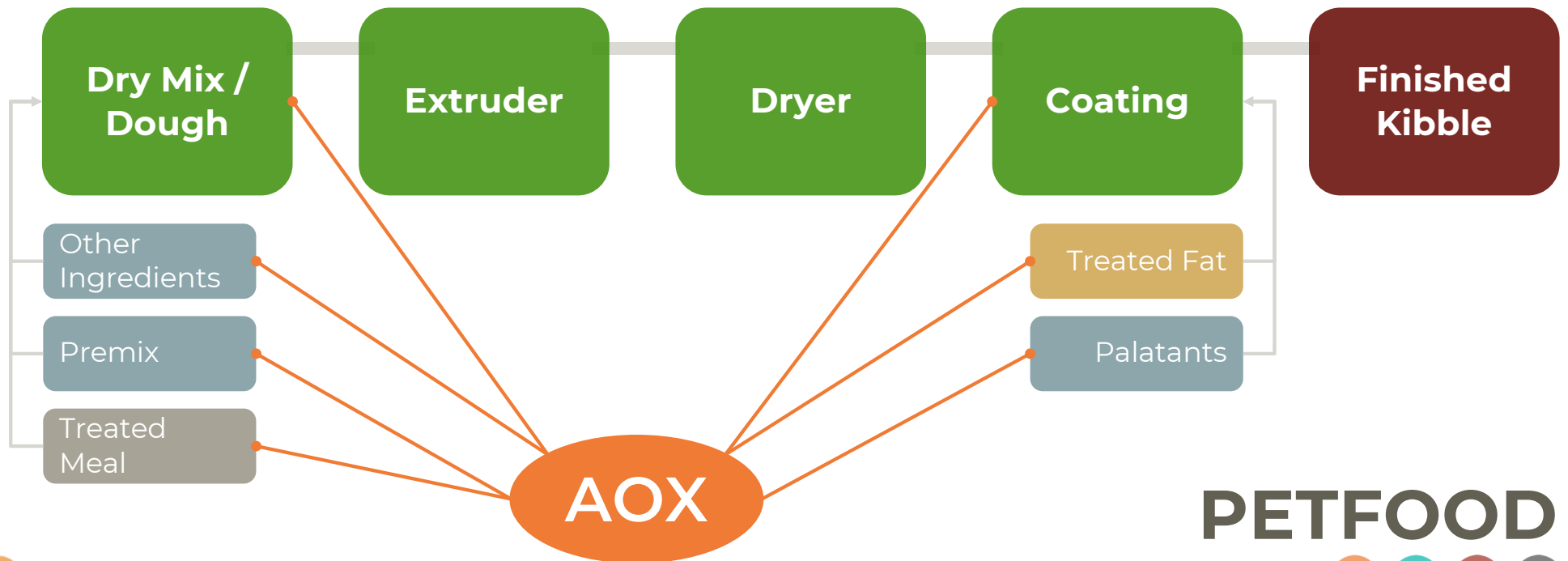
For Rendered Products, Pet foods, Animal Feeds



**RENDERING**

# Apply Antioxidants

For Rendered Products, Pet foods, Animal Feeds



# Antioxidants

For Rendered Products, Pet foods, Animal Feeds

## SYNTHETIC

- Cost effective solutions
- More tolerant to harsh processing conditions
- No flavor impact or palatability concerns

## NATURAL

- Clean label
- Consumer friendly
- Sustainable



# Global Trends

Market expansion  
Population growth  
Extended shelf-life needs  
Innovation expectations

Market challenges  
Regulatory compliance  
Raw material price volatility

## Transparency

- Clean, clear labeling
- Matrix dependent solutions
- Remove non-essential components

## Sustainability

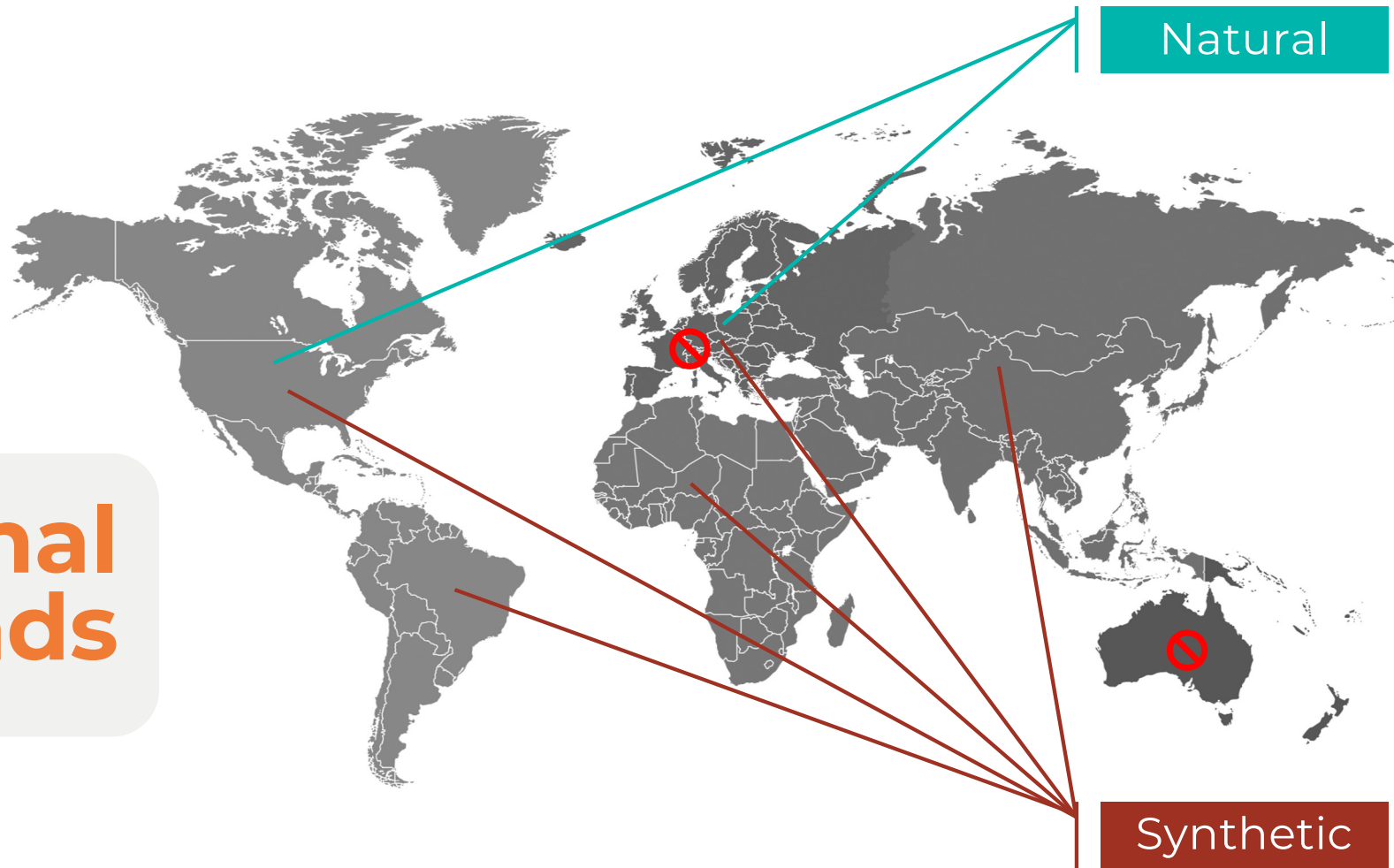
- Ethically sourced raw ingredients
- Concentrated products save costs; transport packaging, etc.
- Minimize the impact of supply chain disruptions

## Wellness

- Demand for natural, organic, plant-based
- Concerns over potential health risks of synthetic antioxidants



# Regional Trends



# Individual Antioxidant Trends

EQ

BHA

TBHQ

BHT

Propyl Gallate

Ascorbyl Palmitate

Tocopherol

Rosemary

EQ

Aug 2022: European Food Safety Authority Commission implemented **ban on the use of EQ** in feed of food producing animals (EU) 2022/1375

Social media continues to pressure pet food, aquaculture and feed industries to **replace EQ**

Impact to the **fishmeal** producers

BHA

TBHQ

BHT

Propyl Gallate

Ascorbyl Palmitate

Tocopherol

Rosemary

**4,000MT** estimated global capacity  
majority in India  
CFS is largest producer

April 2022: EU commission  
authorization of BHA as a feed  
additive in cats, solidifying its **safety**

**Stable** market  
steady supply of key raw material

EQ

BHA

TBHQ

BHT

Propyl Gallate

Ascorbyl Palmitate

Tocopherol

Rosemary

**9,000MT** estimated global capacity  
majority in India  
CFS is largest producer

**Stable** market  
steady supply of key raw material

EQ

BHA

TBHQ

BHT

Propyl Gallate

Ascorbyl Palmitate

Tocopherol

Rosemary

**82,000MT** estimated global capacity

major users: rubber (tires), printing inks,  
plastics, food, transformer oils, & bio-fuels

## **Un-Stable** market

Highest production in Russia  
Supply & logistical challenges  
No domestic US producer  
Customers require Country of Origin  
Under supply of key raw material  
Potential 2024 price increase

EQ

BHA

TBHQ

BHT

Propyl Gallate

Ascorbyl Palmitate

Tocopherol

Rosemary

**2,500MT** estimated global capacity  
majority in China & Peru

**Stable** market  
decreasing demand  
steady supply of key raw material  
susceptible to weather & labor costs

EQ

BHA

TBHQ

BHT

Propyl Gallate

Ascorbyl Palmitate

Tocopherol

Rosemary

**1,000MT** estimated global capacity  
majority in EU

**Stable** market  
steady supply of key raw material

EQ

BHA

TBHQ

BHT

Propyl Gallate

Ascorbyl Palmitate

Tocopherol

Rosemary



**26,000MT** estimated global capacity  
majority in China & US

‘Mixed Tocopherol’ demand  
blend of all homologues: Alpha (Vit E),  
Beta, Gamma and Delta Tocopherols

Sourced from Soybean, Rapeseed,  
Sunflower, Corn and other oils

Sterols production by-product

**Volatile** market  
Limited production with soft sterols market

EQ

BHA

TBHQ

BHT

Propyl Gallate

Ascorbyl Palmitate

Tocopherol

Rosemary

**Rapidly growing** global capacity  
producers spreading to all regions

Active compounds:  
carnosic acid, rosmarinic acid,  
ursolic acid and rosmanol

**Stable** market  
supply of key raw material is keeping  
up with consumption

EQ

BHA

TBHQ

BHT

Propyl Gallate

Ascorbyl Palmitate

Tocopherol

Rosemary

**Danny Gauthier**  
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# Thank You

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