

INSIGHTS ON ASIAN AND GLOBAL PET FOOD TRENDS

PETFOOD FORUM ASIA

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Bangkok, Thailand

Co-located with **petfair**[®]
SE ASIA
BANGKOK, THAILAND

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Treats & Specialty Foods

Clean Label & Process Considerations



Introduction

Will Henry

- Research & Development, Facility Director Director
- AS, BS Engineering (KSU)
- HACCP, SQF, BSL-2, ALT
- 20+ Years
- Product Development, Process Design, Project/Product Management, Feeding Trials & Analysis, Commercial Aspects
- Multiple Industries
 - stock feed, food, pet food, industrial



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Agenda

- Formulation & Ingredients
 - Binders
 - Protein
 - Water Activity
 - Reactive Agents
- Process
 - 'Outside the Box' of pet food / treats
 - Managing Energy



Binders

- Gelatin - 8 Variants
- Plasma - 3 Variants
- Hydrolyzed Plasma - 3 Variants
- Transglutaminase - 4 Variants
- Egg Products - 3 Variants
- Gums (Mastic) - 5 Variants
- Nano Fibrils (Cellulose) - 3 Variants
- Pre-Gelled Starches - Multiple Variants
- Whey, Casein, Caseinate



Binders / Animal Proteins

- Beef
- Pork
- Bison
- Buffalo
- Deer
- Elk
- Rabbit
- Chicken
- Quail
- Pheasant
- Duck
- Turkey
- Salmon
- Whitefish
- Tuna
- Menhaden
- Trout
- Haddock
- Kangaroo
- Lamb
- Wild Boar
- Crickets
- BSF Larvae

Raw Muscle & Raw Whole Organ

Dehydrated Muscle/Organ

Meat or Meat/Bone Meals or Stabilized Slurry

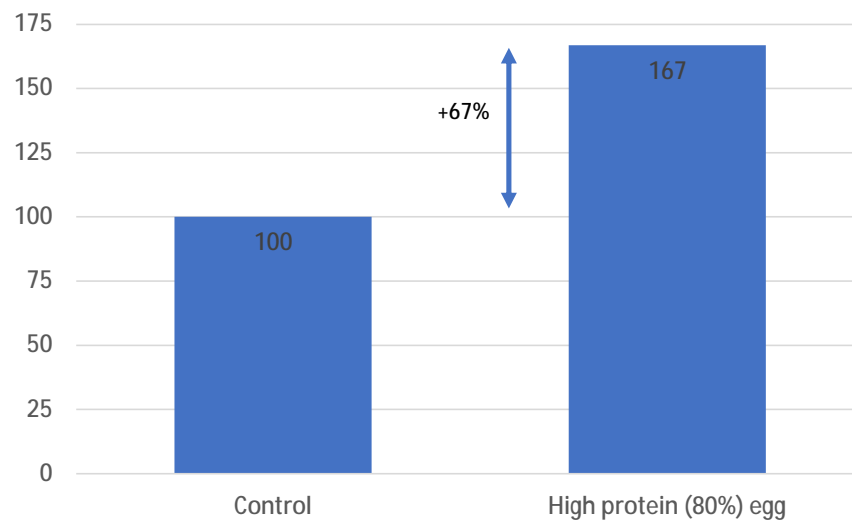


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Binders

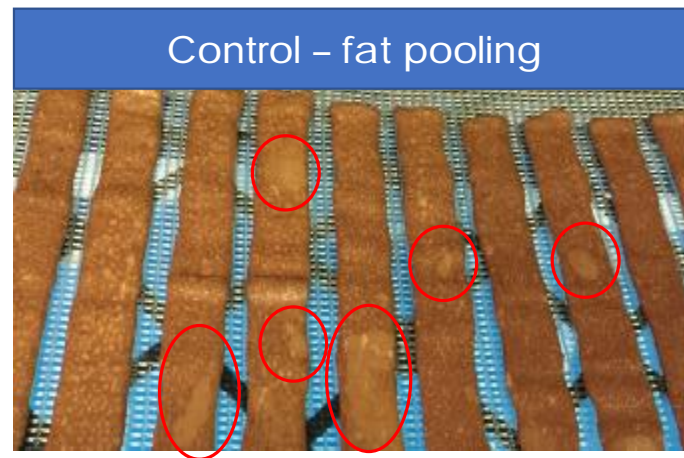
Binding strength: high-protein egg in chicken chunks



- Each Binder provides a specific affect to:
 - Chewiness
 - Hardness
 - Texture
- Provides for tailoring the design of chews and dental sticks
- Must be processed with the proper humectant to stabilize from:
 - Brittleness
 - Over-Hardening

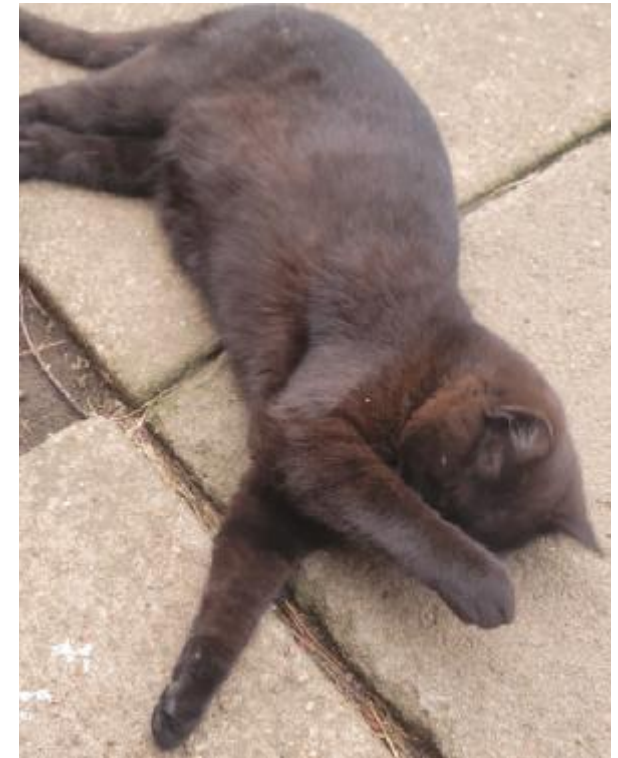
Binders

Control – fat pooling



Water Activity


- Concentrated Fruit Puree
 - Apple, Watermelon, Blueberry, Blackberry
- Glycerin (Vegetable vs Coconut)
- Lecithin (Soy vs Sunflower)
- Dextrose
- Propylene Glycol
- Sorbitol
- HFCS



Single Extruder Treats

- Long Goods
 - Jerky-style sticks/strips
 - Dental-type chews
- Short Goods
 - Biscuits
 - Chunks
 - Strips
- Filled





Single Extruder Treats Roll The Tape Play Video's 01 & 02 & 03



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For The Birds



For The Birds



For The Pocket Pets



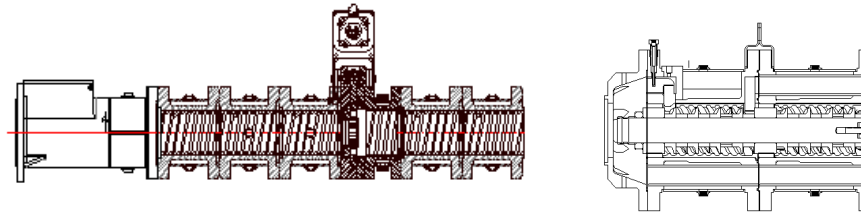
For The Pocket Pets



Bi-Color Single Extruder Treats

Roll The Tape

Play Video 04 & 05



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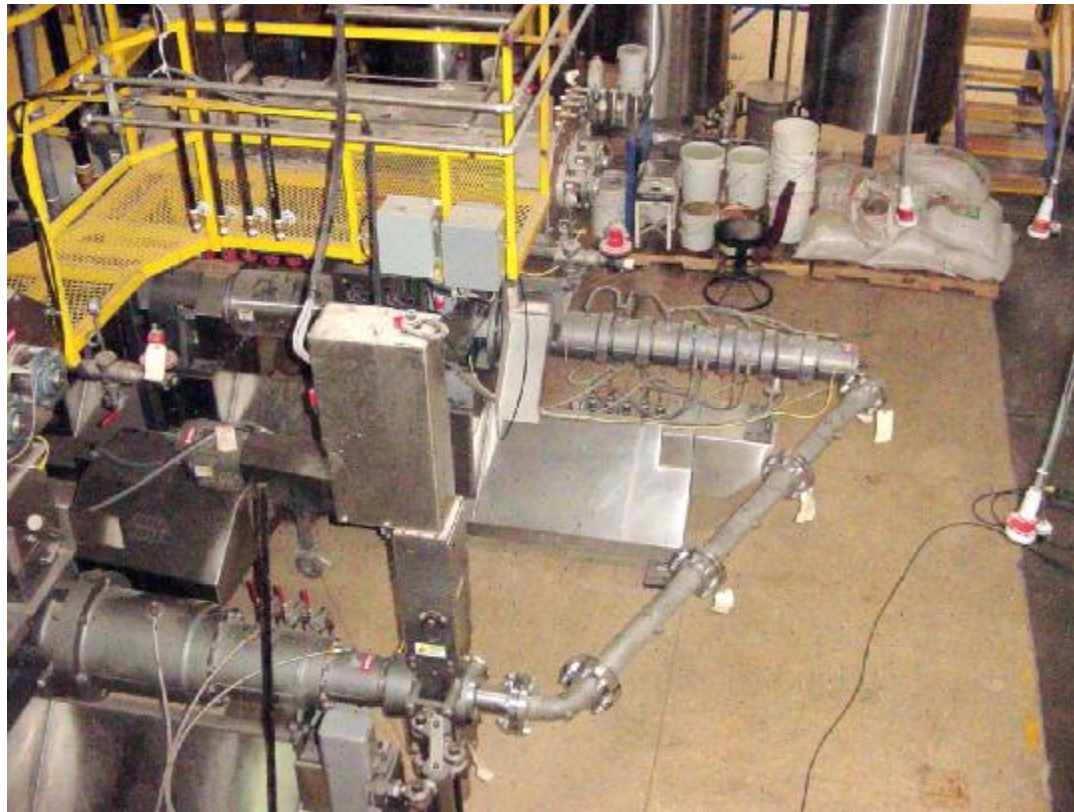


Co-Extruded

- Long Goods
 - Filled-Tubes
 - Dental-type chews
 - Bacon
- Short Goods
 - Steaks
 - Filled Tube
 - Sandwich
 - Marbled



Co-Extruded



Co-Extruded



Co-Extruded



Co-Extruded



Multi-Step Process

Roll The Tape

Play Video 06 & 07 & 08

- Cutting
- Forming
- Densification
- 'Grilling'
- Curing
- Filling
- Crimping
- Twisting



Multi-Step Process



Wrap-Up

Ingredients are Leading the Charge

- Test, verify efficacy, apply
- Rely heavily on industry partners

Product Development & Process Efficiency

- Hardware is always keeping pace
- Constantly pushed by industry innovation
- Must be able to connect the dots
- Final design driven by commercial application



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Questions?

