

What is “cold-pressed technology” and why is it a preferred method of production for chew supplements?

Cold-pressed technology produces a better quality supplement chew

Glyde™ Mobility Chews are formulated to deliver optimized levels of nutrient ingredients to help save your patients from unnecessary occasional mobility impairment. To ensure Glyde maintains its active ingredients' beneficial impact, they are produced using cold-pressed technology. Other processing techniques can reduce a supplement's beneficial impact and alter the texture and palatability of the supplement.

Cold-pressed technology

Extrusion is a common method of processing pet foods and supplements, by using pressure and single or twin screw extruders. Cold press extrusion (40 - 75°C/104 - 167°F) does not use higher temperatures typical of traditional extruders (over 100°C/212°F) in the manufacturing process. In addition, cold press extrusion processes moderate moisture (30-40%) in food/supplement complexes and operates in low shear, smooth barrel surface, deep flight, and low single screw speed.

Protection of heat-sensitive ingredients/nutrients

Many ingredients/nutrients are heat sensitive. Protein, a macro-nutrient, denatures at elevated temperatures. Active nutrients such as amino-acids (components of protein) can degrade and not be efficacious in-vivo. B-complex vitamins are also heat sensitive, and therefore, to retain their efficacy, need to be processed in a finished format (chew, pill, powder) that is not intensively heat treated. Other components, such as Green Lipped Mussel (GLM), a key active ingredient in Glyde Chews, require lower heat exposure to retain potency.

Lipid oxidation reduction

It is well known in food chemistry that heat induces lipid (fat) oxidation. Due to peroxide formation during the oxidation cascade, ketones and aldehyde formations lead to off-notes (aromas) and off-flavors that can cause palatability issues. aldehyde formations lead to off-notes (aromas) and off-flavors that can cause palatability issues.

Cold-pressed technology benefits:

- Ingredients / Nutrients retain their beneficial impact
- Preserves:
 - Original structure
 - Efficacy - Ability to reduce inflammation
- Better palatability due to:
 - Reduced lipid oxidation
 - Flavor retention
- Chewy, soft texture
 - Appealing to dogs
 - Easier to chew for older dogs / dogs with oral care issues

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Texture

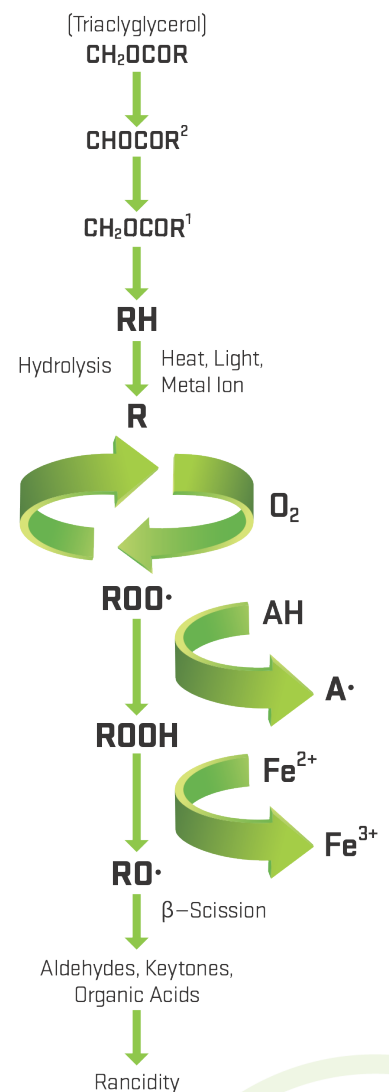
An important eating quality related to palatability is texture. Texture is important to people: think about eating a soft, chewy chocolate-chip cookie vs. a hard, brittle cookie. Texture, or eating quality, is also important to dogs. Cold extrusion allows for a chewy, soft texture that is appealing to dogs and is easier for older dogs with potential teeth/oral issues to chew. High heat extrusion lends to a more brittle, hard kibble vs. a soft chew. Just as you have personally experienced with baking, the higher the heat, the less moisture in a product.

Flavor retention = high palatability

Lastly, and also related to palatability, is flavor. Flavors are comprised of many aromatic components that each have their own specific, volatile profile. Components ‘flash-off’ (vaporize) at different temperature levels. This volatile flash off alters the perception of the flavor profile, affecting palatability. By processing at lower temperatures, the flavor components are ‘protected’ and do not flash off; therefore, the intended flavor remains in the final product.



Mechanism of lipid oxidation



RH: Unsaturated Fatty Acid
 R: Alkyl Radical
 ROO: Peroxyl Radical
 ROOH: Hydroperoxide
 RO: Alkoxy Radical
 AH: Chain-Breaking Antioxidant

Reference: ocl-journal.org and aocs.org