

# Technical Tips

## Caramel Color in Pet Food

Caramel color is widely used to deliver eye appeal to foods and beverages. Visual appeal is also important to the pet owner to satisfy the need for serving appetizing dry and wet foods to their dog or cat.

### Dry

Some owners of dogs and cats carefully read ingredient labels on packages. Manufacturers of pet food have responded to those customers who are concerned with synthetic colors. Some dry pet food manufacturers choose caramel color to reduce the use of synthetics. Caramel color alone can replace a combination of three certified colors -- FD&C Red # 40 (Allura), FD&C Yellow # 6 (Sunset), and FD&C Blue # 2 -- which blended together can make brown. *The result is a product with a cleaner label and a meaty appearance.* Using caramel to replace synthetics also solves a common problem in digestion that occurs when the body absorbs red colors, leaving the blue and yellow to show a “green effect” in pet stools.

*The following is test data on an extruder in an external pilot plant:*

Kibble ingredient formula for extruder  
operating at 113 kgs/hour:

46.5%	Wheat
23.0	Poultry meal by-product
10.5	Wheat middlings
19.0	Soybean meal
1.0	Salt

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100.0%



**A) Control; no color**

**B) DDW #605 or #607 powder added at 3% level in formula**

**C) DDW #640 or #642 powder added at 5% level in formula**

The caramels in the photo above replaced added synthetic colors injected into the extruder at the following rates:

FD&C Red # 40 (Allura)

38.4 grams/minute at concentration 2.27 kgs/190 liters of water

FD&C Yellow # 6 (Sunset)

135 grams/minute at concentration 2.27 kgs/190 liters of water

FD&C Blue # 2

74.1 grams /minute at concentration 2.27 kgs/190 liters of water



*For samples or technical questions,  
please e-mail us at [info@ddwmson.com](mailto:info@ddwmson.com)*

## Wet (Canned)

Caramel color standardizes batch-to-batch variation. Most of the beef-flavored and liver-flavored pet products packaged in cans contain liquid caramel color. Without caramel color added, the meat and by-products would appear more gray. A liquid caramel with low viscosity works best. Caramel is heat-stable at standard retort processing temperatures.

For the most economical choice, many processors use DDW #050 (or #055) double-strength which, as the darkest type, requires the least volume. Other processors use a red-tone caramel like DDW #201, #301 or #203. Within any one class of caramel color, there is an inverse relationship between color intensity (darkness) and hue (redness). For a balance, we also recommend DDW #250 or #252.



Cat Food Products containing Caramel Color

## Gravy

Some companies have introduced beef or chicken gravy for the owner to pour over (or stir with) dry pet food. We recommend DDW #201 or #301 liquid for its high hue.

Premium dry pet food products may contain a dust coating on the kibble that includes powdered caramel color blended with other ingredients. We recommend DDW #600, #640, #642, #643, #605 or #607 powders.



Range of Gravy Hues

## Semi-moist

Semi-moist pet products often resemble raw ground beef in appearance. Processors can achieve this by adding DDW #605 (or #607) powder and FD&C Red #40 (Allura) or a natural red color. If a redder hue caramel is needed, try DDW #640, #642 or #643.

## Treats/Snacks

Bakers can obtain an appealing reddish-brown tone in a dog biscuit by applying DDW #610 powder or DDW #201 (or #301) liquid at 1% to 2% of dough weight.

Pet food processors apply caramel color in a variety of other treats such as bones, bacon chews, rawhide, and jerky sticks. Caramel serves as a key ingredient in a beef coating. Caramel color is water-soluble and versatile.

D.D. Williamson's liquid and powdered caramel products in solution range from pale yellow to reddish-brown to medium-brown to nearly black.



Pet Treats containing Caramel Color

## Burnt Sugar

In Europe and other regions, processors may use burnt sugar as a flavor that provides incidental coloring to pet foods. DDW offers a full line of liquid and powdered burnt sugars.



For samples or technical questions,  
please e-mail us at [info@ddwmsn.com](mailto:info@ddwmsn.com)

+1 502 895 2438

• [caramel.com](http://caramel.com)

•  @ddwcolor