

Transglutaminase and Beef Fibrin: Facts, Figures & Falsehoods

Facts:

- Transglutaminase (TG) and beef fibrin are food enzymes that act as binders, much like egg yolks, corn starch and various plant fibers that are used to bind foods together.
- TG is an enzyme that naturally occurs in cheese, vegetables, in animals and in humans. It is produced for food use through fermentation.
- Beef fibrin is an enzyme derived from beef plasma.
- Both of these products are most commonly used for food service purposes. In many cases, they help with portion control by creating a uniform size. For instance, they can help bind two cone-shaped tenderloins into a single cut that will have the same diameter when sliced.
- They also may be used to help attach bacon around the outside of a filet mignon.
- Some chefs use them in restaurants to make very creative foods. The French Culinary Institute posted a detailed blog with photos about how Chefs may wish to use it.
- Both TG and beef fibrin are regulated and approved for use by the U.S. Department of Agriculture. Both products are regulated as ingredients and must be listed in the ingredient statement. Products that used these enzymes will say “formed” or “shaped” on the label. If beef fibrin is used, it must be used in the product name or as a product name qualifier, depending on how much is used.
- Both enzymes have an excellent food safety record.
- USDA recommends that a meat product with TG be cooked to at least 145 degrees F with a three minute rest period, which is considered rare degree of doneness and is the minimum temperature under the Food Code.

Figures:

- TG and Beef Fibrin may not be more than 10 percent of a meat product. Beef Fibrin is typically used at **3-5%**, while TG is typically used at less than 1 percent.
- Manufacturers of TG and beef fibrin estimate that, totaled, their use would affect about 8 million pounds of meat out of approximately 49 BILLION pounds of beef and pork are consumed each year in the U.S. -- **approximately .016% of total meat consumption.**

Falsehoods:

- **FALSE:** TG and beef fibrin are essentially “meat glue.” *This is an incorrect and misleading term. They are two enzymes of dozens that may be used. They bind products together in the same way that an egg binds other foods together..*
- **FALSE:** Chefs use TG or beef fibrin to form what appear to be premium cuts of meat out of smaller inexpensive cuts. *This is not only impractical from a time and cost perspective, IT IS ILLEGAL under state and local consumer protection laws.*

- **FALSE:** Fibrin is derived from pig blood. *In the U.S., fibrin is derived from beef, not pork. Fibrin is derived from pigs in Europe. If pig derived fibrin were used in a U.S. beef product, it would need to be labeled as pork.*
- **FALSE:** TG is illegal in Europe. *TG is used legally in Europe.*
- **FALSE:** These enzymes are secret and hidden from the consumer. *TG and beef fibrin are considered ingredients and therefore must be labeled.*
- **FALSE:** TG is used in chicken nuggets. *This is neither necessary nor a practical use according to manufacturers. We are unaware of any chicken nugget manufacturer using TG.*

For more information on TG please see our fact sheet

<http://www.meatami.com/ht/a/GetDocumentAction/i/77318> or Meat Mythcrusher video:

<http://bit.ly/K0vKwN>