University of Kentucky
College of Agriculture, Food and Environment
Cooperative Extension Service

Kentucky 4-H Poultry Judging Contest
Market Poultry Division

Evaluating Further Processed Poultry Products

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Revisions to the Market Poultry Division

In 2021, major revisions were made to the market poultry division of the 4-H poultry judging contest. The market poultry division now includes one class each of:

- ready-to-cook broiler carcasses to grade
- ready-to-cook roaster carcasses to grade
- parts identification
- parts grading
- further processed boneless poultry products

Each class is worth 100 points, for a total of 500 possible points for the division. This factsheet will cover the evaluation of further processed poultry products.

Further Processed, Breaded, Boneless Poultry

Starting with the 2021 contest, a new class evaluating breaded, boneless, further processed poultry products was added to the 4-H poultry judging contest. Boneless further processed poultry meat products are common in retail markets as precooked poultry meat patties, tenders, nuggets, or other boneless products. In the contest, the products will be displayed singly or in groups of three in order to help determine uniformity.

The products will be displayed on plates covered with plastic. Participants are not allowed to touch the product or plates in any way.

The criteria for evaluation of the boneless, breaded products will include:

- coating defects
- consistency of shape/size
- cluster/aggregation of products
- completeness of products
- evidence of foreign material

In the contest there will be 10 plates with further processed products. Each plate is evaluated for the presence of any or all of the defects listed above. A completed score card is shown in Figure 1.

Contestant #: S-92
Name: JAMES DOE
County: Muhlenberg

KENTUCKY 4-H
POULTRY JUDGING EVENT

CLASS G: Further Processed Products

DEFECT	PLATE 1	2	3	4	5
Coating defect	X				
Consistency of shape/size	X				X
Cluster/Aggregate of products			X		
Completeness of product				X	
Evidence of foreign material					X
SCORE					

DEFECT	PLATE 6	7	8	9	10
Coating defect	X				X
Consistency of shape/size		X		X	
Cluster/Aggregate of products		X			
Completeness of product	X				X
Evidence of foreign material			X		
SCORE					

TOTAL SCORE: _____ / 100

(Scoring: Two points for every defect [present or absent] for each plate of product = 10 points per plate)

Figure 1. Example of completed score card for the further processed products class in the 4-H poultry judging contest.

Coating Defects

Boneless poultry products are breaded for taste and customer appeal. Coating defects refer to the coverage of the coating over the entire product as well as the color of the coating itself.

Coating Coverage

Coverage refers to the uniformity of thickness of the breading over the product as well as how well it adheres to the surface of the meat. The surface of the product should be completely covered with breading that has a uniform texture and appearance. A void of more than ¼ inch on tenders and nuggets or ½ inch on patties results in a coating defect (see Figure 2). The void must be continuous. Multiple voids on a single product are not added together (see Figure 3). If three pieces are shown, the amount of void is not additive over the three pieces.

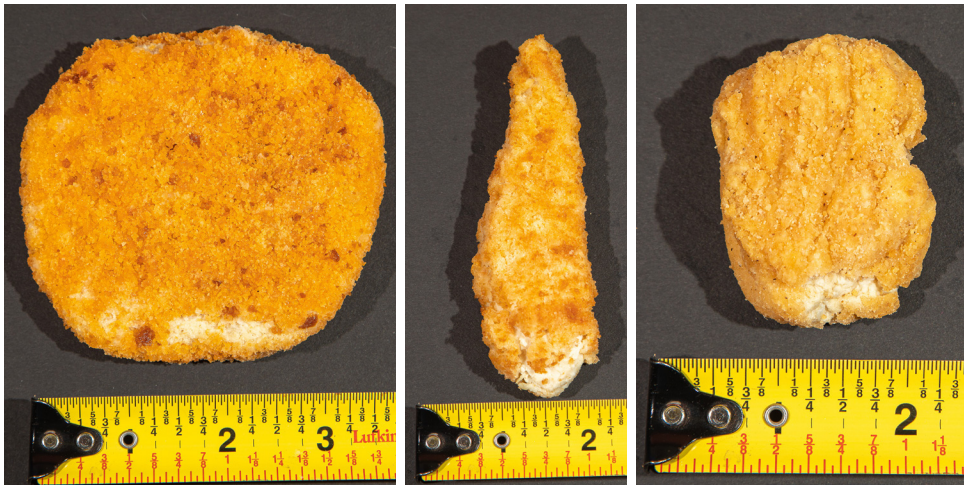

Figure 2. Examples of coating voids resulting in the presence of a coating defect in a patty, tender, and nugget.

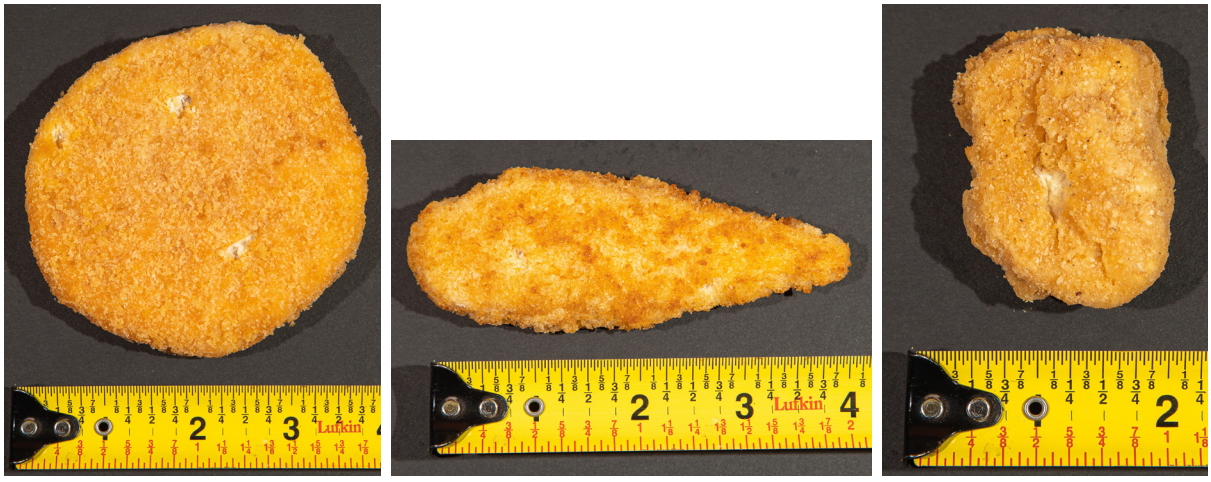

Figure 3. Examples of small voids in the breading of a chicken patty, tender, and nugget. The voids are too small to be considered defects.

Coating Color

Typically, breaded poultry products have a golden-brown color. Subtle differences are normal during the production process (see Figure 4). For single items, the color should be uniform across the entire item and should not contain dark, burnt areas, or other contrasting colors in the coating of the product (see Figure 5).

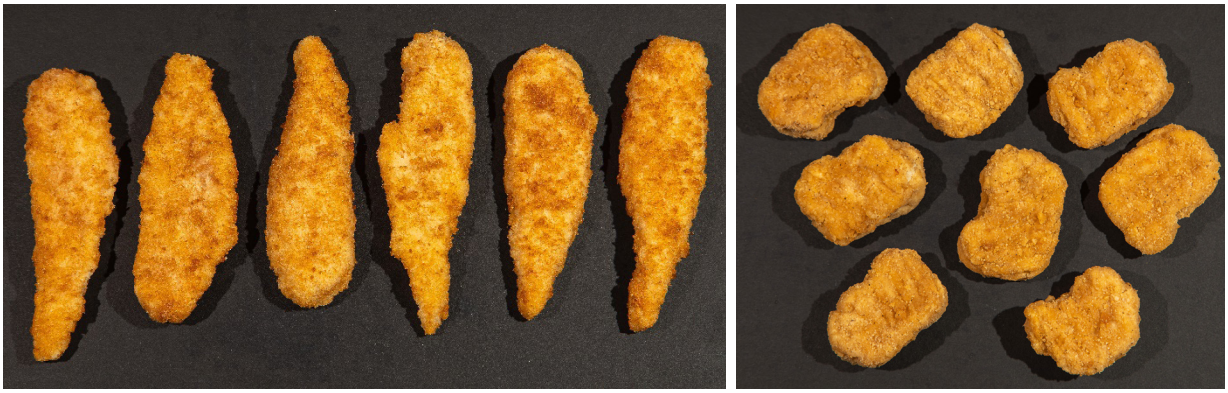

Figure 4. Examples of tenders (left) and nuggets (right) showing the variation in colors typical in a batch of product.

Figure 5. Examples of single patties, tenders, and nuggets with a lack of uniformity in color resulting in a coating defect.

You should expect the color to be uniform across all products displayed in a group. If one of the products is noticeably darker or lighter than the other two products, it is a color defect (see Figure 6).

Figure 6. Examples of trios of patties (left), tenders (middle), and nuggets (right) with a lack of uniformity in breading color resulting in a coating defect.

It is possible to have a product with a defect in both color and coverage in the coating (see Figure 7). It still only results in a single coating defect.

Figure 7. Example of a patty (left) and nugget (right) where the color is not uniform and there is a breading void. Each product would be recorded as having a coating defect.

Consistency of Shape/Size

There are many shapes and sizes of boneless chicken products. For example, nuggets are processed in a variety of shapes from stars to dinosaurs (see Figure 8). Slight variations in shape and size are to be expected, but substantial differences or variations in shape and size of products can affect cook times.

Any group of products with inconsistent shape and/or size would have a consistency of shape/size defect. If the product is folded prior to breading or while processing and the product takes on a shape not consistent with the other samples, record consistency of shape/size defect.

Figure 9 shows two trios of nuggets, both of which have a nugget that is a slightly different shape than the other two. For both trios it is the nugget in the lower right corner of the photo.

Figure 8. Examples of dinosaur-shaped nuggets.

Figure 9. Examples of trios of nuggets with inconsistent shape resulting in a consistency of size/shape defect.

Figure 10 shows a trio of patties in which one patty is smaller than the other two resulting in a consistency of shape/size defect.

Figure 10. Example of a trio of patties with one patty slightly smaller than the other two resulting in a consistency of shape/size defect.

Cluster/Aggregate of Products

When breading further processed products it is possible for two or more pieces of meat to become overlapped and breaded together (see Figure 11). This is considered a defect because the products that are overlapped may not cook properly. The products must appear to be fused together with breading and not just touching each other or overlapping when displayed.

Figure 11. Example of two nuggets attached together resulting in a cluster/aggregate of product defect.

Completeness of Product

An incomplete break is when a product has a break or tear in the meat that is clearly visible, but the product remains whole (see Figure 12). A complete break is when the product is broken into more than one piece (see Figure 13). It can be displayed in separate pieces, or a single piece of a broken product. In such cases, completeness of product defect should be indicated. Do not record this type of defect as inconsistent shape/size or coating defect when it is evident that it is a part of a broken product. The break caused the product to take on these other defects but only the initial defect is recorded.

Figure 12. Examples of incomplete breaks in a patty, tender, and nugget (left to right) resulting in a completeness of product defect.

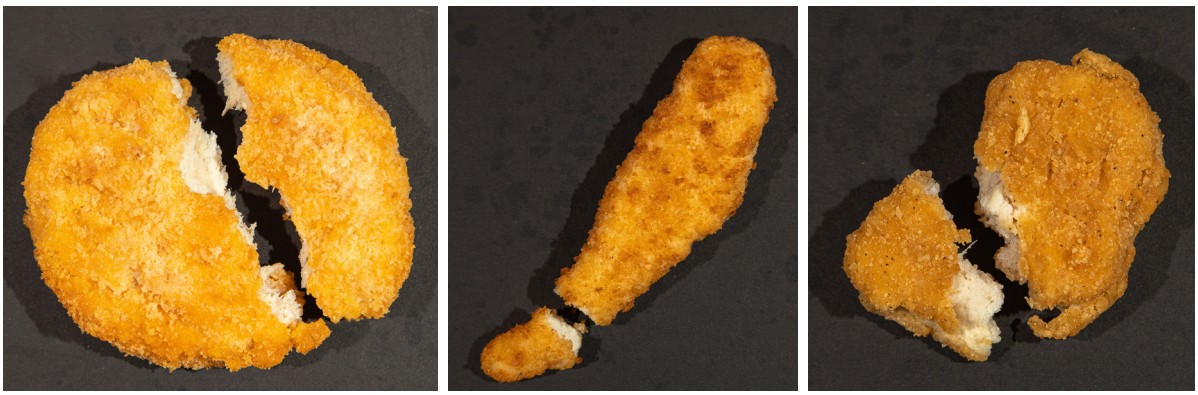

Figure 13. Examples of complete breaks in a patty, tender, and nugget (left to right) resulting in a completeness of product defect.

Evidence of Foreign Material

Foreign materials are any non-food objects such as feathers, plastic, metal, rubber, glass, and wood that may get into the product.

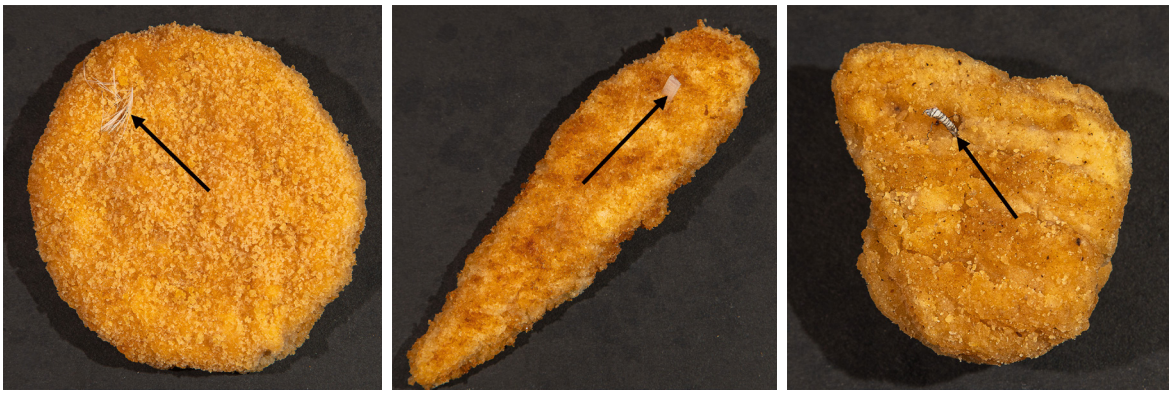

Figure 14. Examples of products with evidence of foreign material defects (left to right: Patty with feather, tender with plastic, and nugget with metal).

Multiple Defects

It is possible to get product plates with multiple defects as shown in Figures 15 and 16. In Figure 15 the chicken patty has two defects. It has a lack of uniformity in the color of the breading resulting in a coating defect. It also has a piece of plastic stuck in it resulting in an evidence of foreign material defect. In Figure 16 the chicken tender also has two defects. It has a piece of dark plastic embedded in the breading resulting in an evidence of foreign material defect. It also has a continuous void in the breading more than the ¼ inch allowed on a tender, resulting in a coating defect.

Figure 17 shows how the two products in Figure 15 (marked as plate 1) and Figure 16 (marked as plate 2) would be marked on the score card. The contestant would get two points each for indicating that the product had the coating defect and evidence of foreign material defect. They would also get two points each for not marking the other defects since they were not present.

Figure 15. Example of a patty with multiple defects: coating defect because of the lack of uniformity in color and evidence of foreign material defect because of the presence of a piece of clear plastic.

Figure 16. Example of a tender with multiple defects: coating defect because of the continuous coating void more than ¼ inch and evidnece of foreign material defect because of the presence of a piece of dark plastic.

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DEFECT	PLATE				
	1	2	3	4	5
Coating defect	X	X			
Consistency of shape/size					
Cluster/Aggregate of products					
Completeness of product					
Evidence of foreign material	X	X			
SCORE	10	10			

Figure 17. Example of how the chicken patty in Figure 15 (plate 1) and the chicken tender in Figure 16 (plate 2) would be scored. Both have multiple defects. The contestant would score 10 points for each plate.

Be careful not to record multiple defects when one defect causes the other defects to occur. For example, if a patty is broken in half and only one half is displayed (see Figure 18), you should record "completeness of product" as the only defect even though the break resulted in differences in shape. You do not record consistency of shape/size since it is the result of the initial defect of completeness of product.

If some breading is missing where the break occurred (see Figure 19), you do not record a coating defect since it is the result of the initial defect of completeness of product.

The Contest

In the contest, the products will be displayed on plates and covered with plastic wrap. Since the contestants cannot handle the product, or the plates, they should only evaluate the portions that are fully visible.

Figure 18. Example of a trio of patties where one is broken and only a portion of the patty is displayed. Completeness of product would be recorded but not coating defect or consistency of shape/size.

Figure 19. Example of broken nugget resulting in a completeness of product defect but not a coating defect since the void in the breading is a result of the break.

Revised 7-2021