



## Certification of Breeding Percentage for Meat Products

### Purpose

This instruction provides AMS agents guidelines for certification of meat products for percent breeding.

### Policy

FSIS regulations (Directive 7620.3) require that products labeled as “breaded” contain no more than 30% batter and breeding. Products labeled as “fritters” may contain up to 65% batter and breeding on the finished product. It is MGC policy to ensure that processors comply with applicable specifications for breaded products.

### Procedures

AMS agents shall ascertain the percentage of batter and breeding and defects specified by recipient. This information shall be located in the contract or on the End Product Data Schedule (EPDS) for further processed USDA Donated commodity products. If no breeding percentage is indicated, AMS agents shall certify that product does not exceed FSIS requirements, as stated in the Policy section of this Instruction.

#### Percent Breeding

Examinations shall be conducted on an hourly basis, unless otherwise specified. Product shall be randomly selected from across the belt. Upon completion of the examination, product may be incorporated into unformed product, returned to the production line or handled according to plant specific procedures.

The following formula shall be used to determine the breeding percentage of red meat products.

$$\frac{\text{Breaded weight} - \text{Unbreaded weight}}{\text{Breaded weight}} \times 100 = \% \text{ Breeding}$$

Procedures for determining the breeding percentage of products of *uniform* size and weight are outlined in Table 1. Since, the product pieces are the same size and weight, unbreaded product may be selected independently from breaded product without biasing breeding percentage.

Procedures for determining the breeding percentage of *non-uniform* size or weight product are

outlined in Table 2. Since, the product pieces are not uniform in size or weight, the breading percentage must be determined by using the same product to determine the unbreaded weight and the breaded weight.

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<a href="#">Table 1. Product of uniform size and weight</a>	<a href="#">Table 2. Product not of uniform size or weight</a>

**Breading Defects**

Product shall be examined for breading defects hourly, at the final stage of production (i.e. packaging). Each hour’s production shall be considered a sub-lot. Procedures for determining breading defects are outlined in Table 3. The breading defects are outlined in Table 4 and sampling criteria is outlined in Table 5. Refer to MGC Instruction 605 for Sample Plan Preparation.

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<a href="#">Table 3</a>	<a href="#">Table 4. Breading Defects</a>	<a href="#">Table 5. Acceptable Quality Levels</a>

**Rejected Product**

If product fails to comply with specifications, product produced after the last acceptable sample shall be rejected. Product rejected for breading percentage shall be rejected and may be incorporated into raw product, according to plant specifications. Product rejected for breading defects may be reworked and offered for reexamination one time only. Product failing to comply with the reexamination criteria shall be rejected.

**Rework**

Product shall be identified by production date, product code, recipient agency and the reason it is to be reworked, as applicable. Refer to MGC Instruction 603 Product Control for further information.

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**Table 1. Product of uniform size and weight.**

STEP	PROCEDURE	EXAMPLE
1	Determine weight of 10 pieces of unbreaded product.	10 Unbreaded Pork Patties = 30.3 oz
2	Determine weight of 10 pieces of breaded product.	10 Breaded Pork Patties = 42.9oz
3	Subtract the unbreaded weight from the breaded weight to determine the amount of breading.	$\begin{array}{r} 42.9 \text{ oz} \\ - \underline{30.3 \text{ oz}} \\ 12.6 \text{ oz Breading} \end{array}$
4	Divide the amount of breading by the breaded weight.	$12.6 \text{ oz} \div 42.9 \text{ oz} = .2937$
5	Convert this decimal into percentage by multiplying by 100.	$.2937 \times 100 = 29.37\%$

**Table 2. Product not of uniform size or weight.**

STEP	PROCEDURES	EXAMPLE
1	Determine weight of 10 pieces of unbreaded product.	10 Unbreaded Beef Fritters = 50 oz
2	Return the 10 pieces of unbreaded product to production line.	N/A
3	Allow the 10 pieces to pickup batter and breading.	N/A
4	Collect the <i>original</i> 10 pieces of breaded product.	N/A
5	Determine the weight of breaded product.	10 Breaded Beef Fritters = 70.5 oz
6	Determine Percent Breading (Table 1).	29.08% Breading

**Table 3**

<b>STEP</b>	<b>PROCEDURES</b>	<b>EXAMPLE</b>
1	Select sample box.	1 Shipping container
2	Select 10 sample units per sample box.	10 Nuggets/Patties
3	Record box number or time/pallet number of selected sample.	Box 200 or 0935 Hrs, Pallet No. 3
4	Record examination results on worksheet.	1, No. 1 defect
5	Determine sub-lot compliance, with Table 4, Breeding Defects.	Accept, Adjust or Reject sub-lot.
6	Determine sub-lot status, with Table 5, AQL.	Accept, Adjust or Reject sub-lot

**Table 4. Breading Defects**

<b>Defect No.</b>	<b>Defect</b>
1	Undercooked, overcooked or scorched product.
2	Fractured nuggets, fingers, patties or fritters. I.e. portion split into two or more separate pieces.
3	Missing breading in an area of .25 inch or more for individual nuggets or fingers.
4	Missing breading in an area of .50 inch or more for individual patties or fritters.
5	Presence of ridges (excess breading that project at the edge of a nugget, finger, patty or fritter) that is greater than .50 inch in length.
6	Presence of lumps (excess batter or breading on the surface of a nugget, finger, patty or fritter) that is greater than .25 inch in depth.

**Table 5. Acceptable Quality Levels**

Sample Number	Cumulative			
	Sample Size	Defects		
		Accept <sup>1</sup>	Adjust <sup>2</sup>	Reject <sup>3</sup>
1	10	1	2	3
2	20	2	3	4
3	30	2	3	4
4	40	3	4	5
5	50	3	4	5
6	60	3	4	5
7	70	4	5	6
8	80	4	5	6
9	90	5	6	7
10	100	5	6	7
11	110	5	6	7
12	120	6	7	8
13	130	6	7	8
14	140	7	8	9
15	150	7	8	9

**Note:**

<sup>1</sup>Accept product that has equal to or fewer defects for appropriate cumulative sample size.

<sup>2</sup>Product that falls into this category is subject to rejection based on the results of the next hour's product examination. Processors should make adjustments in the operation to correct the appropriate defect(s) and prevent product rejection.

<sup>3</sup>Product that contains defects equal to or greater than the quantity specified shall be rejected. All product that was produced from the last acceptable examination shall be rejected.