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# **EXPERIMENT 4      EVALUATION OF CARCASS QUALITY OF POULTRY**

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## **4.0 OBJECTIVES**

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After going through this experiment, you will be able to:

- determine quality of dressed chicken; and
- grade the dressed chickens according to their carcass quality.

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## **4.1 INTRODUCTION**

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Grading of poultry has the advantage for quality evaluation and selection of meat type. This helps in marketing and getting remunerative price based on the quality. An effective grading encourages farmer and producer to raise or produce quality chicken for high value. Different grades of poultry carcass are grade-1 and grade-2 according to Indian standard (IS 4674 – 1979); and grade-A, grade-B and grade-C according to U.S.D.A. grading. Grading dressed carcass is based on conformation, fleshing, fat covering, freedom from pin feather and vestigial feather, discolouration, blemish and bruises, freezer burn and size – weight.

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## **4.2 EXPERIMENT**

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### **4.2.1 Requirement**

- Indigenous chicken/desi chicken (two) i.e. No 1 and No 2
- Broiler chicken well fleshed (two) i.e. No 3 and No 4
- Broiler moderately fleshed (two) i.e. No 5 and No 6
- Broiler poorly fleshed (two) i.e. No 7 and No 8

### **4.2.2 Procedure**

- 1) Grade the chicken according to following table for Indian Standard grades:

**Table 4.1: Specification for Grading of dressed chicken as per Indian Standard**

Characteristic	Grade 1	Grade 2
Conformation	Free of deformities that detract from its appearance or that affect the normal distribution of flesh. Slight deformities such as slightly curved or dented breastbones and slightly curved back may be present.	Slight abnormalities, such as, dented, curved or crooked breastbone, crooked back, or misshapen legs or wings which do not materially affect the distribution of flesh or the appearance of the carcass or part.
Fleshing	The breast is moderately long and deep and has sufficient flesh to give it a rounded appearance with the flesh carrying well up to the crest of the breastbone along its entire length.	The breast has a substantial covering of flesh carrying upto the crest of the breastbone sufficiently to prevent a thin appearance.
Fat covering	The fat is well-distributed so that there is a noticeable amount of fat in the skin in the areas between the heavy feather tracts.	The fat under the skin is sufficient to prevent a distinct appearance of the flesh through the skin, specially on the breast and legs.
Defeathering	Free of pinfeathers, diminutive feathers, and hair which are visible to the inspector or grader.	Not more than an occasional protruding pinfeather or diminutive feather shall be in evidence under a careful examination.
Cuts and tears	Free of cuts and tears on the breast and legs.	The carcass may have very few cuts and tears.
Discolouration	Discolouration due to bruising shall be free of clots. Flesh bruises and discolourations of the skin, such as "blue back", are not permitted on the breast or legs of the carcass or on these individual parts and only lightly shaded discolourations are permitted elsewhere.	Discolouration due to bruising shall be free of clots. Moderate areas of discolouration due to bruises in the skin or flesh and moderately shaded discolourations of the skin such as "blue back" are permitted.
Freezer burn	May have an occasional pockmark due to drying of the inner layer of skin (derma), provided that none exceeds the area of a circle 0.5 cm. in diameter	May have a few pockmarks due to drying of the inner layer of skin (derma), provided that no single area exceeds that of a circle 1.5 cm in diameter.

2) Grade the chicken according to following table for USDA grades.

**Table 4.2: Specifications of Quality for Individual Carcasses of Ready-to-cook Poultry (USDA)**

Factor	A quality	B quality	C quality
Conformation	Normal	Moderate deformities	Abnormal
Breastbone	Slight curve or dent	Moderately dented, curved, or crooked	Seriously curved or crooked
Bone	Normal (except slight curve)	Moderately crooked	Seriously crooked
Legs and wings	Normal	Moderately misshapen	Misshapen
Fleshing	Well fleshed, moderately long, deep and rounded breast	Moderately fleshed, Considering kind of class, and part	Poorly fleshed
Fat covering	Well covered – especially between heavy feather tracts on breast and considering kind, class, and part.	Sufficient fat on breast and legs to prevent distinct appearance of flesh through the skin.	Lacking in fat covering over all parts of carcass
Pinfeathers	Free	Few scattered	Scattering few
Disjointed bones & Broken bones	One disjointed and no broken parts	Two disjointed and no broken or one disjointed and one non-protruding broken.	No limit
Missing parts	Wing tips and tail	Wing tips, second wing joint, and tail. Back area not wider than base of tail and extending half way between base of tail and hip joints.	Wing tips, wings, and tail. Back area not wider than base of tail extending to area between hip joints.
Freezing defects	Slight darkening over the back and drumsticks few small 1/8 in. pockmarks for poultry weighing 6 lb or less and 1/4 in. pockmarks for poultry weighing more than 6 lb, occasional small areas showing layer of clear or pinkish ice.	Moderate dried areas not in excess of 1/2 in. in diameter; may lack brightness; moderate areas showing layer of clear, pinkish, or reddish coloured ice.	Numerous pockmarks and large dried areas.

(Source: USDA)

### 4.2.3 Observation

Grade the above chicken according to grading characteristic. Record your observation in a tabular form.

Grading standard	Grades	Chicken no.							
		1	2	3	4	5	6	7	8
Indian Standard									
	No 1								
	No 2								
U.S.D.A.									
	A								
	B								
	C								

**Comment on carcass quality of dressed chicken.**