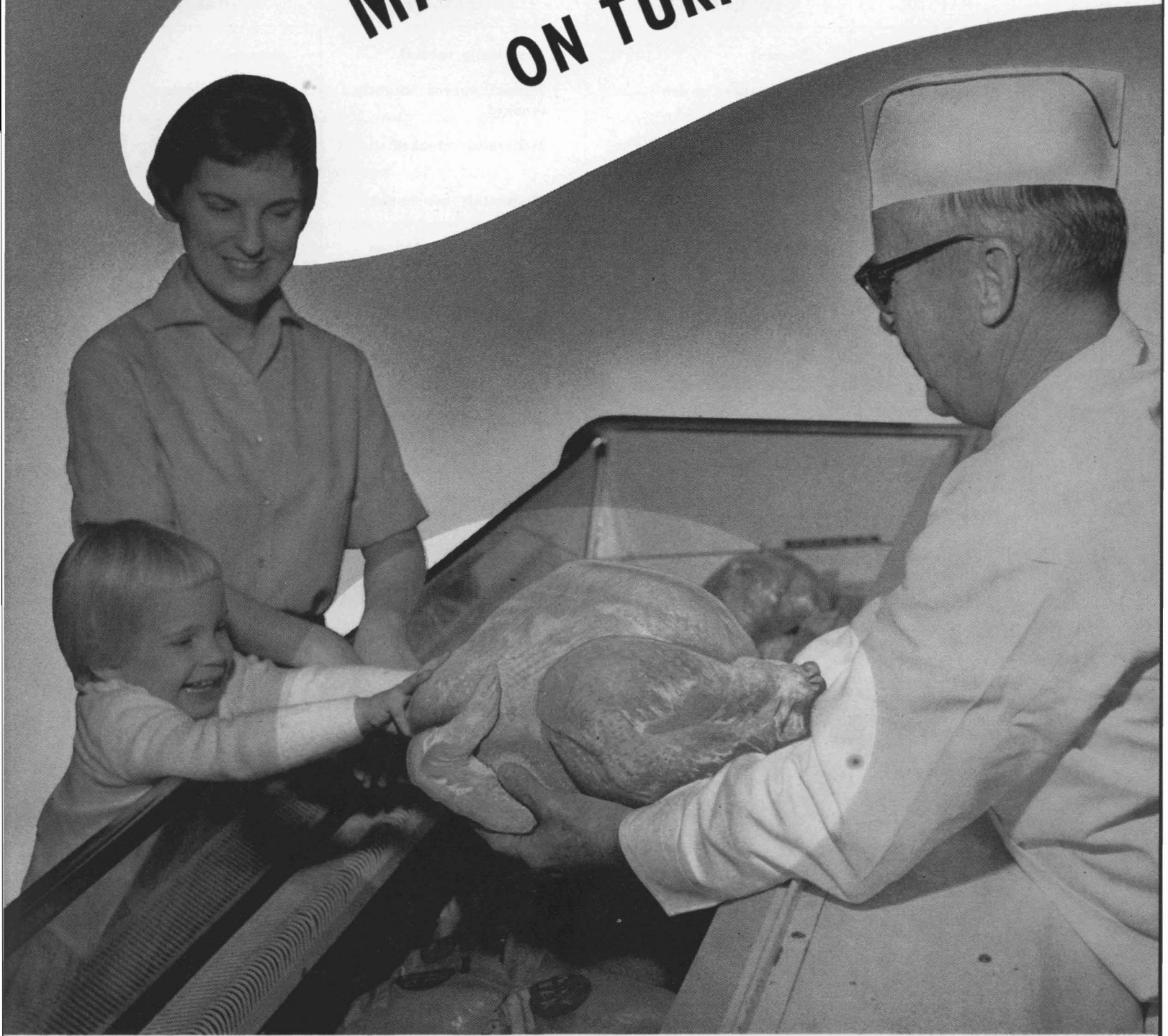


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MARKET DEMANDS ON TURKEYS



THE AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

TEXAS AGRICULTURAL EXTENSION SERVICE

College Station, Texas

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Summary of Specifications for Standards of Quality for Individual Carcasses
of Dressed and Ready-to-Cook Turkeys
(Minimum Requirements and Maximum Defects Permitted)

FACTOR	A QUALITY		B QUALITY		C QUALITY
<i>Conformation:</i>	Normal		Practically normal		Abnormal
Breastbone	Slight curve or dent		Dented, curved, slightly crooked		Seriously crooked
Back	Normal (except a slight curve)		Moderately crooked		Seriously crooked
Legs and Wings	Normal		Moderately misshapen		Misshapen
<i>Fleshing:</i>	Well fleshed, moderately long and rounded breast		Fairly well fleshed on breast and legs		Poorly fleshed
<i>Fat Covering:</i>	Well covered considering class		Sufficient fat on breast and legs to prevent a distinct appearance of flesh through skin		Lacking in fat covering over all parts of carcass
<i>Pinfeathers:</i>	Breast and Legs	Elsewhere	Breast and Legs	Elsewhere	Scattering
Nonprotruding pins and hair	Practically free	Practically free	Few scattered	Few scattered	
Protruding pins	Free	Free	Free	Free	
<i>Cuts, Tears and Missing Skin:</i> ¹	Free	3"	3"	6"	No limit
<i>Discolorations:</i> ²	2"	3"	3"	6"	No limit ³
Disjointed bones	1		1 or 2, if no broken bones		No limit
Broken bones	None		1 Nonprotruding		No limit
Missing parts	Wing tips and tail		Wing tips, 2nd wing joint, and tail		Wing tips, wings and tail
<i>Freezer Burn:</i>	Few small (1/4" diameter) pockmarks		Moderate-dried areas not in excess of 1/2" in diameter		Numerous pockmarks and large dried areas

¹Total aggregate area of flesh exposed by all cuts, tears, and missing skin.

²Flesh bruises and discolorations such as "blue back" not permitted on breast and legs of A Quality birds. Not more than one-half of total aggregate area of discoloration may be due to flesh bruises or "blue back" (when permitted), and skin bruises in any combination.

³No limit on size and number of areas of discoloration and flesh bruises if such areas do not render any part of the carcass unfit for food.

Market Demands On Turkeys

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Grading standards have been improved during the last twenty years along with requirements for sanitation. A definite trend also has developed towards improved programs in grading and inspection. These programs are designed to help producers, processors and consumers.

A summary of specifications for U. S. Department of Agriculture standards of quality for individual ready to cook turkeys is outlined inside the cover page. These specifications are used as a basis for grading turkeys.

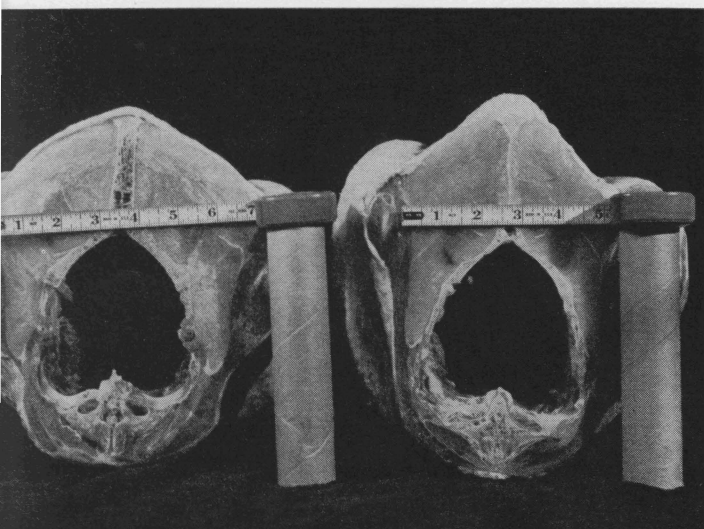
Grades of individual turkeys are arrived at by considering the general conditions and cleanliness of each bird, as well as body conformation, amount of flesh and finish, and the

absence or extent of bruises, tears, discolorations, pinfeathers, broken and disjointed bones.

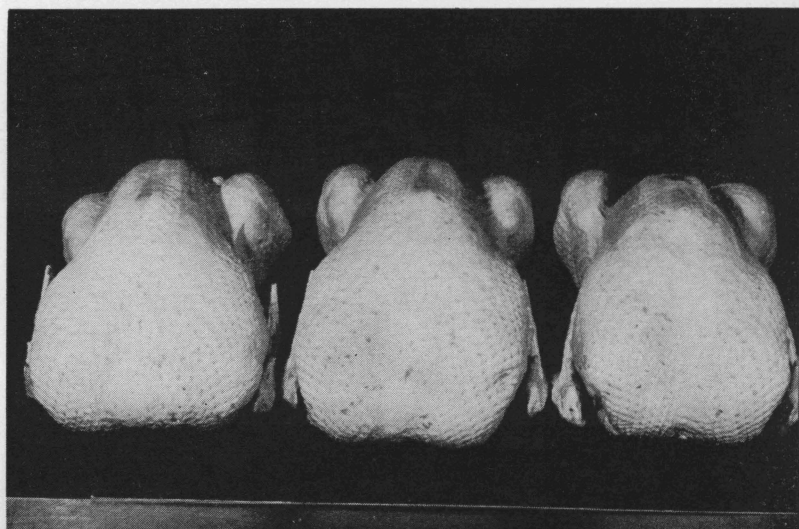
The market class to which turkeys belong is determined by age, weight and sex. Since market class is considered when the carcass is graded, the consumer, in order to buy wisely, needs to know the various classes. Turkeys are usually classed as fryer-roaster, which are usually under 16 weeks of age; young turkeys (hen or tom) which are under one year of age; yearling turkeys (hen or tom) which are over one year of age; and old turkeys (hen or tom) which are fully matured.

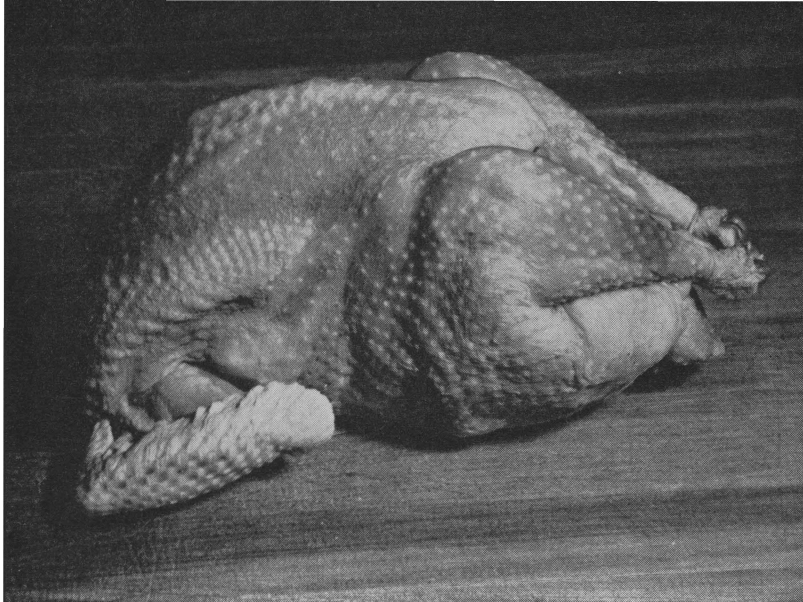
It should be the aim of all producers and processors to sell turkeys with maximum quality and with as few defects as possible. Consumer satisfaction is more likely when turkeys meet grade A quality requirements.

VARIATION IN FLESHING: Turkey breasts cross sectioned to illustrate variation in width of flesh on breasts of turkeys.



A QUALITY TURKEYS: These A Quality turkeys have normal body conformation, well fleshed with a good covering of fat under the skin over entire turkey.





This turkey has excellent body conformation. Note depth and length of body.

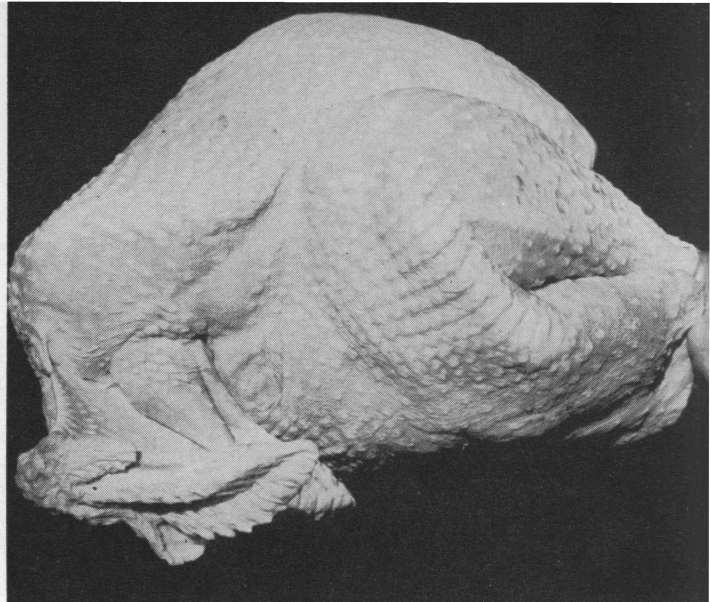
Body Conformation

Turkeys with desirable conformation will have broad backs and deep bodies. They also will have wide bodies that are uniform in width from front to rear. The length of their bodies should be long enough to balance their width and depth. This makes it necessary to consider three dimensions when determining if turkeys have desirable body conformation.

The amount of meat on the ready to cook turkey will influence body conformation and also the percentage of meat to bone. This makes it highly important to have as much meat on the turkey as possible. The breast meat comprises about 30 percent of total weight of a ready-to-cook turkey and both legs represent about 27 percent. This is why turkeys need broad breasts and bulging thighs if they are to be of desirable body conformation.

Fat well distributed under the skin over the entire carcass also helps to improve body conformation. Fat, however, does not influence conformation as much as flesh.

Turkeys of same age, sex and variety may vary in amount of meat on the turkey.



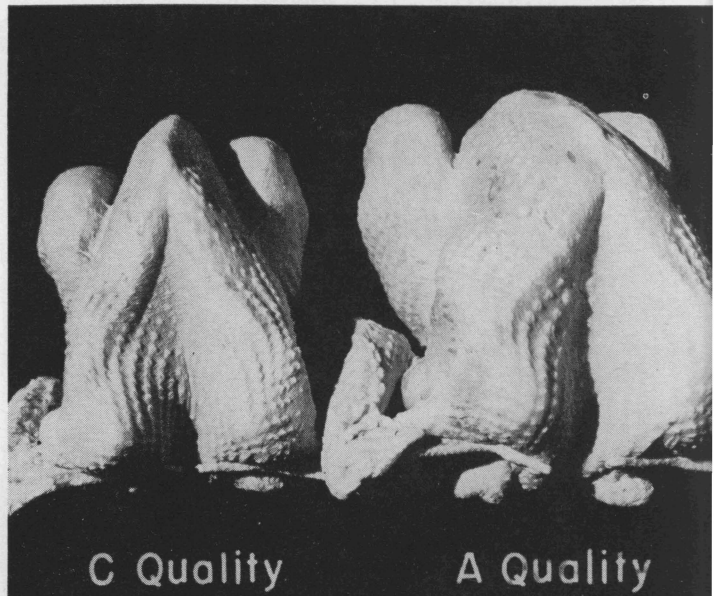
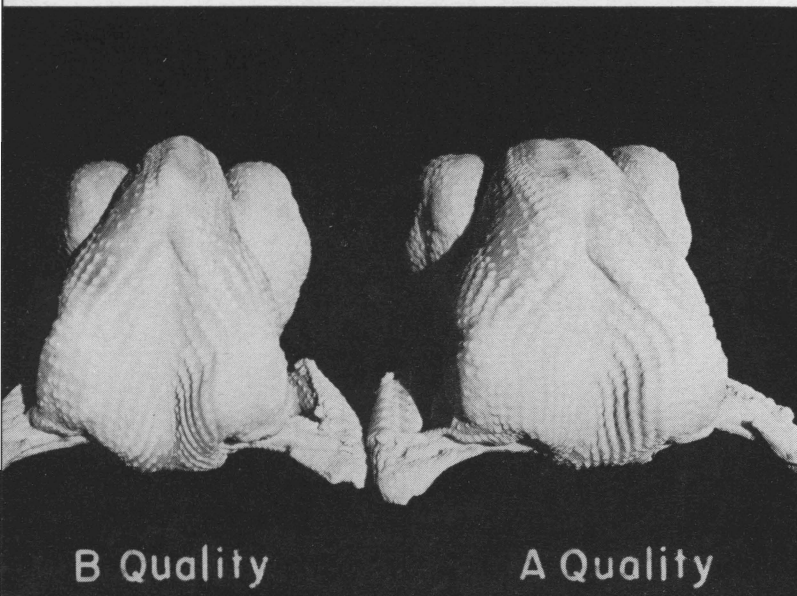
Undersirable rocker keel. Breasts and backs should be straight and parallel.

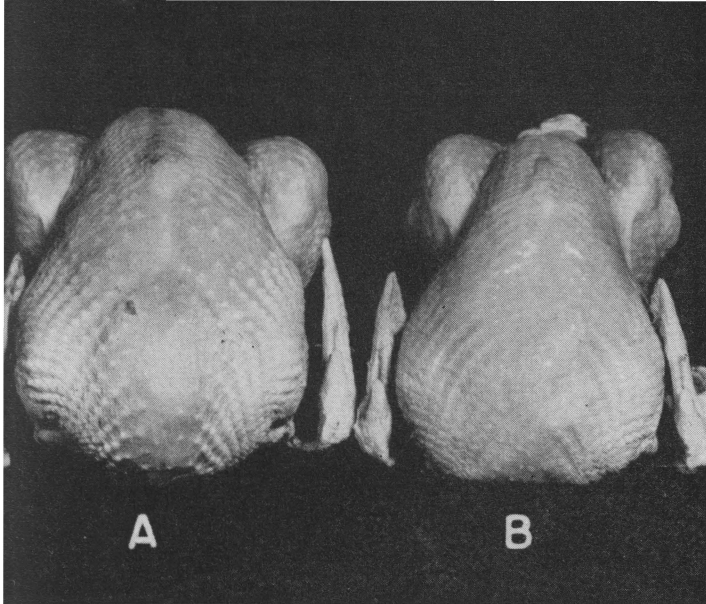
Fleshing and Finish

Fleshing refers to the amount of meat on the carcass in relation to the skeletal size. The degree of fleshing is determined largely by the amount of breast meat and size of legs which amounts to about 57 percent of drawn weight. A fully fleshed carcass has a well-covered keel, bulging thighs and large drumsticks and is well covered over the back. Research has shown that lack of flesh and finish are major causes of low quality turkeys.

Finish means fat. Turkeys add finish first in the feather tracts on either side of the keel. Additional fat is added between the feather tracts and on the back as fat is deposited under the skin over the entire turkey. A light creamy yellow fat is most desirable while a bronze colored fat is objectionable. Fat color is influenced by the feed the turkey eats. The amount of flesh and finish in relation to the size of turkey influences grade.

Due to the difference in fleshing these two turkeys represent C and A quality.





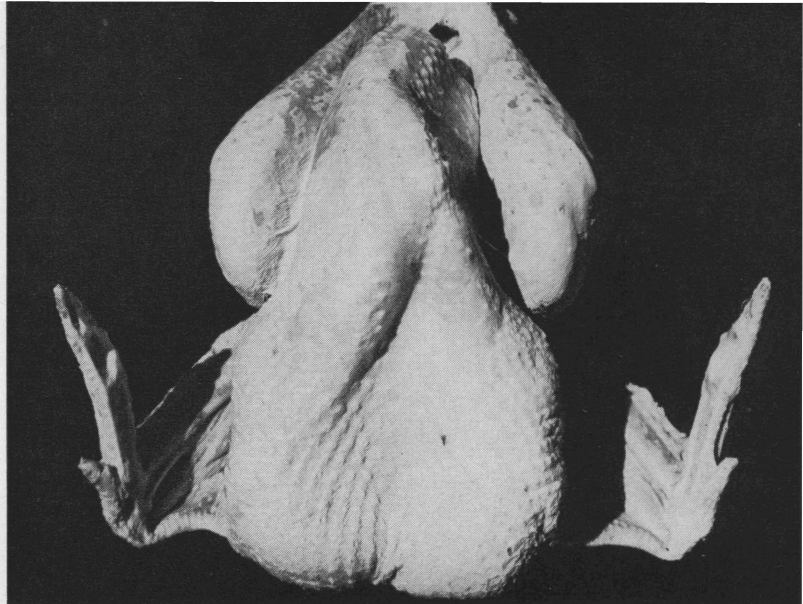
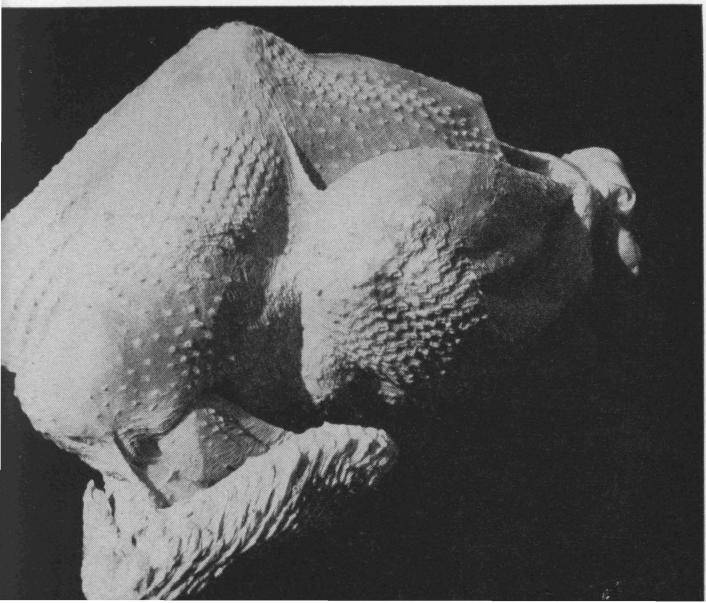
Age, sex and variety influence size. A weighs 15 pounds and B weighs 8 pounds. Both are grade A.

Size

During recent years large and small varieties of turkeys have been developed. These varieties have improved qualities over those previously grown for the market. At market age, which is usually 22 to 32 weeks, hens of small varieties weigh 8 to 12 pounds, and the toms, 15 to 18 pounds. In the largest varieties, the hens weigh 14 to 18 pounds, and the toms 23 to 30 pounds. These weight ranges offer consumers who purchase turkeys in retail stores a wide range of sizes to meet their requirements for almost any occasion. It also offers commercial institutions larger turkeys which are preferred to meet their needs.

The requirements for quality and grade of turkeys are not necessarily influenced by size. Therefore, regardless of size, turkeys can be of high or low quality and can be one of three grades, A, B or C.

Below, dented breast. Defects such as this reduce the percentages of meat to the bone and affect eye appeal.



This crooked breast illustrates a serious defect and thus lowers the grade. Little, if any, demand for such turkeys.

Deformed Breast

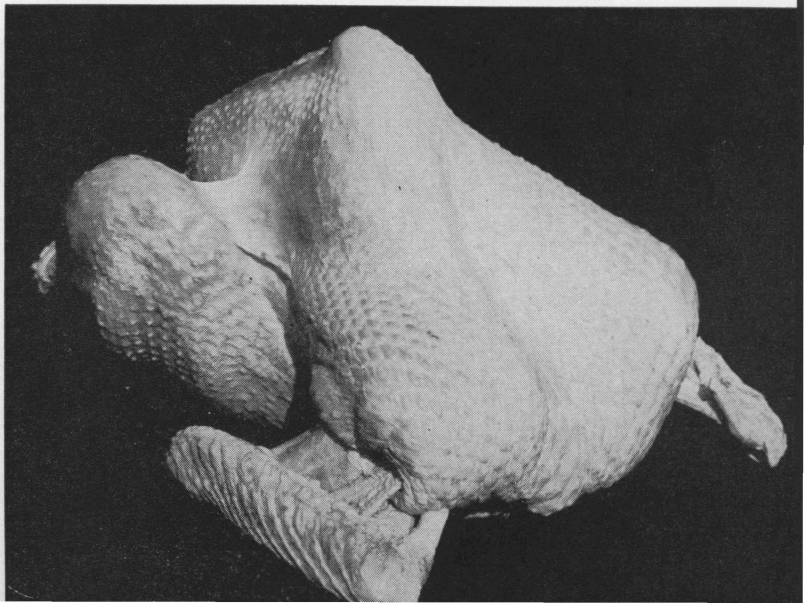
Deformed breasts are abnormalities which reduce the ratio of meat to bone and thus the market value. Deformities detract from the eye appeal of the ready-to-cook carcass. The most numerous breast deformities are curved and crooked keels; however, those with dents or knobs on them are commonly found.

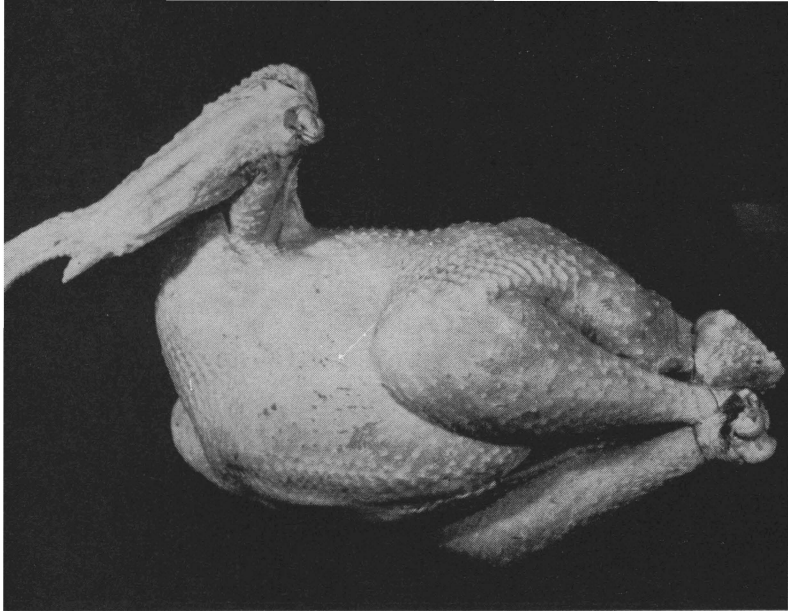
A turkey with a curved or crooked keel usually has less meat on one side of the breast than on the other. A turkey with a dented breast or slightly crooked breast bone cannot be a USDA Grade A ready-to-cook turkey.

A dent in the keel is unsightly. Dents are therefore a serious defect in the ready-to-cook turkey, and thus turkeys with this defect do not meet USDA Grade A requirements.

Pronounced knobs on the forward point of keel are often found in market turkeys. Such deformities are wasteful to the consumer and thus lower the market value of the turkey. These serious breast defects can be controlled through breeding, management and nutrition.

Below, knob on keel. Defects such as this lower the grade considerably.





Consumers hesitate to buy turkeys with disjointed or broken bones.

Broken and Disjointed Bones

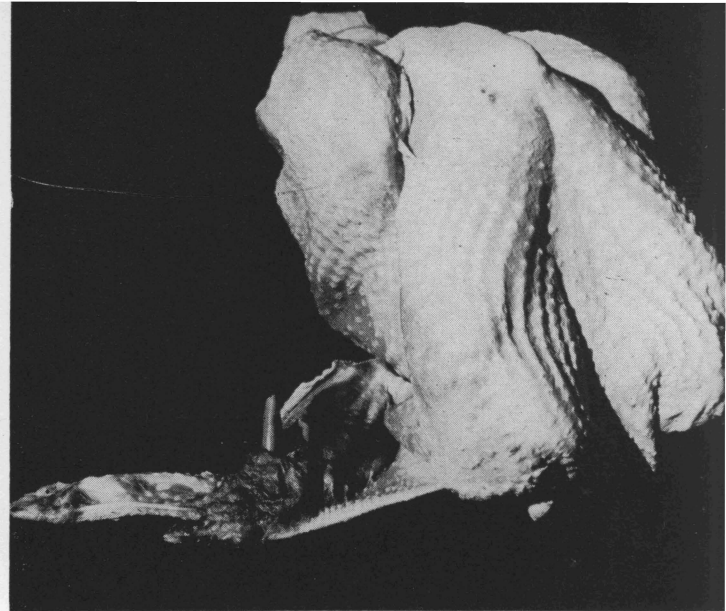
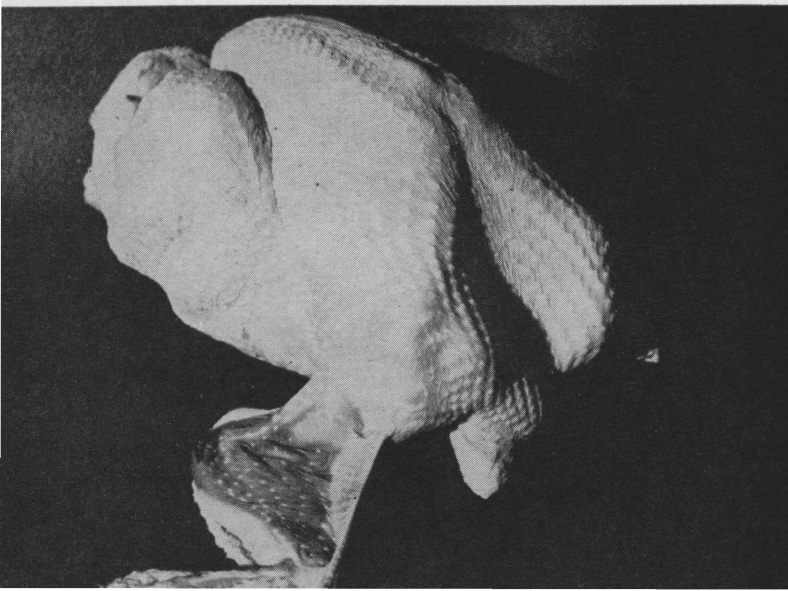
Broken and disjointed bones usually result from mishandling. When a bone is either broken or disjointed prior to the time the bird is bled, bruises frequently result.

Protruding and nonprotruding broken bones are serious defects which influence grade. They also influence consumer acceptance. When bruises occur with broken or disjointed bones, the defect is even more serious.

Disjointed bones are less serious than broken and do not influence the grade of the carcass to the same extent. If bruising is associated with disjointing of bones it becomes more serious as in the case of broken bones. Although disjointed bones are less serious defects, they do affect buyer reaction.

These defects of the carcass usually occur during processing but they can occur on the farm, in transportation or retail handling.

Flesh and skin bruises may be caused any time before turkeys are bled.



Bruises usually are associated with disjointed and broken bones, resulting in lower grades and economic losses.

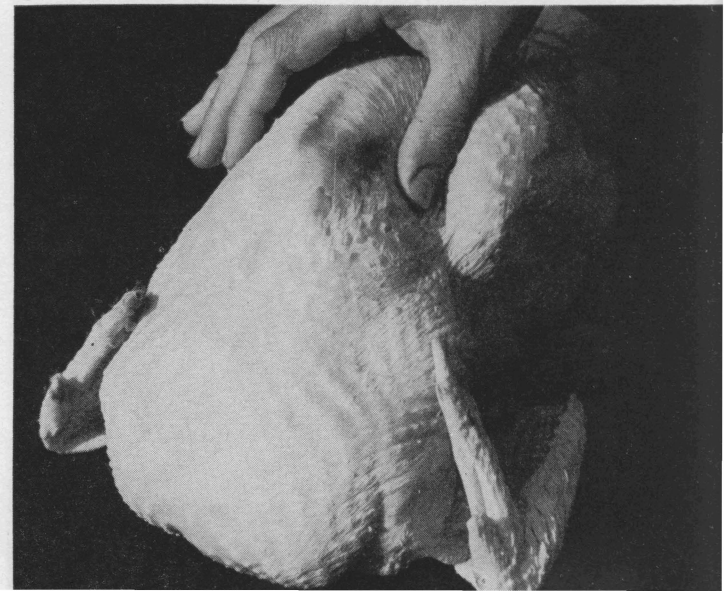
Bruises

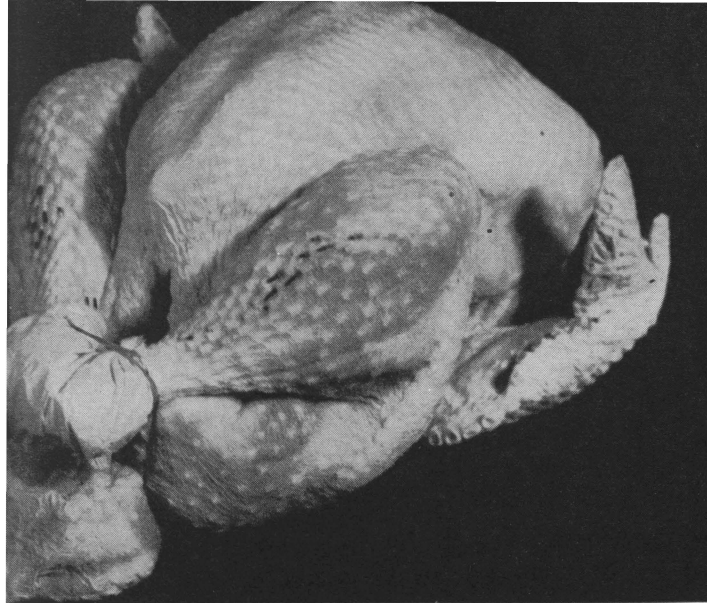
Bruises are second in importance to lack of flesh and finish as the principal cause of low grade in market turkeys. Bruises are caused usually by improper handling prior to or during the marketing process. Remember these bruises always occur before the turkey is thoroughly bled. The location, size and kind of bruises determine the seriousness of the defect and the extent to which the grade is lowered and market value is lost.

Flesh bruises can cause a loss of edible meat, less market value and a lower grade. After the injury takes place, flesh bruises often become blue or green and are stationary. No flesh bruises are permitted on the breast and legs of a USDA Grade A ready-to-cook turkey.

Skin bruises are not as serious a defect as flesh bruises. These bruises are contained within the skin and are not connected with the flesh. If the bruise changes location when the skin is pulled to either side, it is a skin bruise.

Flesh bruises are most serious and both may cause loss of edible meat, thus less demand.





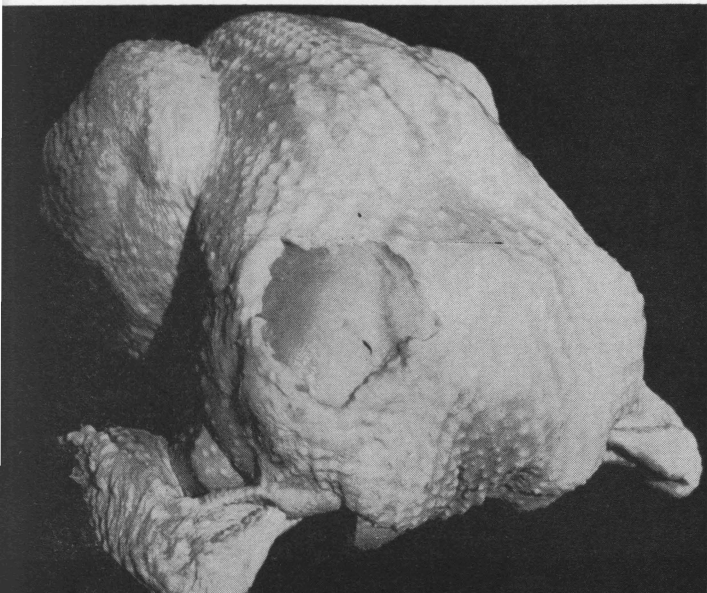
Neither A, B or C grade turkeys permit protruding pinfeathers.

Pinfeathers

Consumers believe that a ready-to-cook turkey with pinfeathers is not clean and sales appeal thereby is reduced. Pinfeathers may exist on the live bird but are not readily seen until it is processed. Protruding pins are those which are developed sufficiently to be removed by modern picking equipment. Some protruding pins have long sheaths, in others the feather is beginning to fan out of the sheath and in some cases they may be further developed. Since the market demands turkeys free of protruding pins, ready-to-cook turkeys with protruding pins cannot be placed in any U. S. grade.

Nonprotruding pinfeathers are those which have not yet emerged from under the skin. They are not easily removed in processing and detract from the eye appeal of the turkey. Top quality turkeys must be practically free from nonprotruding pinfeathers. Turkey growers should not market their turkeys until the pinfeathers have developed sufficiently for easy removal by normal processing methods.

Requirements for A grade turkeys do not permit cuts and tears on breasts or legs.



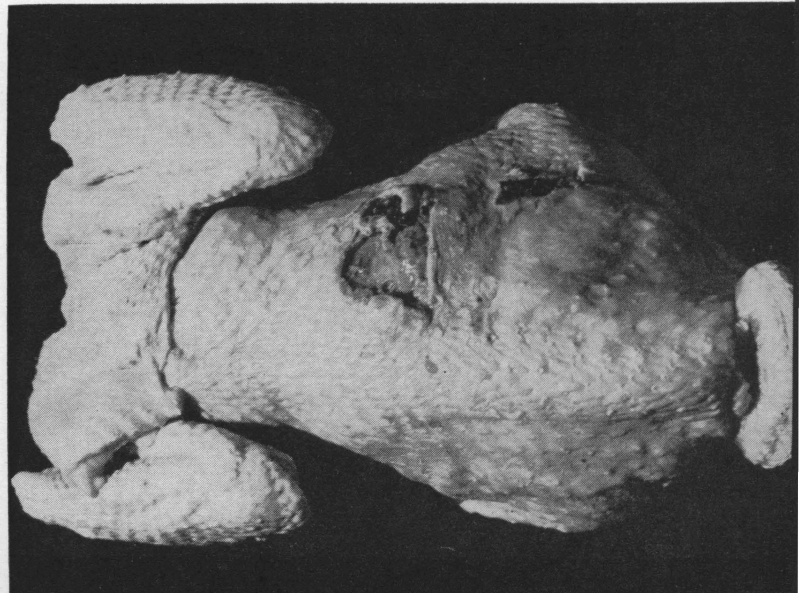
Nonprotruding pinfeathers are not as serious, but do affect grade and consumer acceptance.

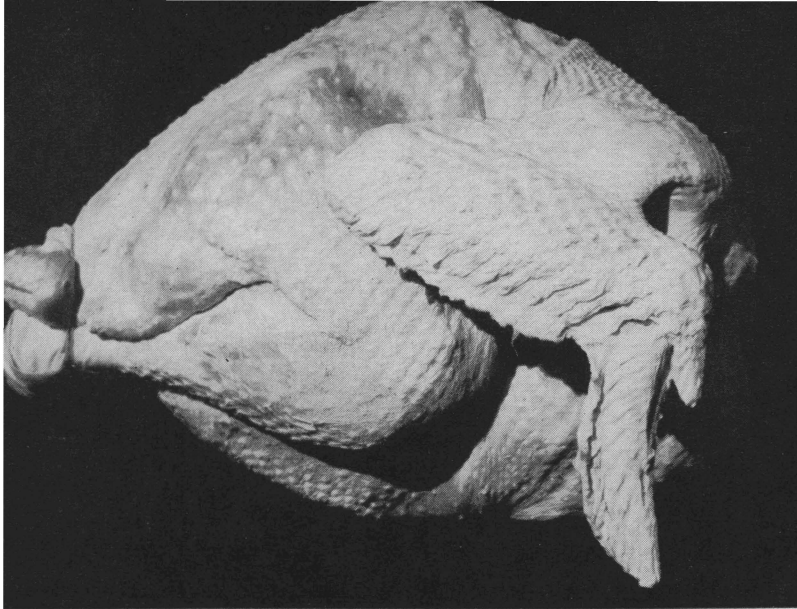
Cuts and Tears

Cuts and tears in the skin not only detract from the appearance of the ready-to-cook turkey but such injuries permit the flesh to dry out and result in lowered eating quality. Most cuts and tears are caused by poor management on the farm or careless handling during marketing. Tears that have been sewn are no longer permitted according to the U. S. Specifications for grades of ready-to-cook turkeys.

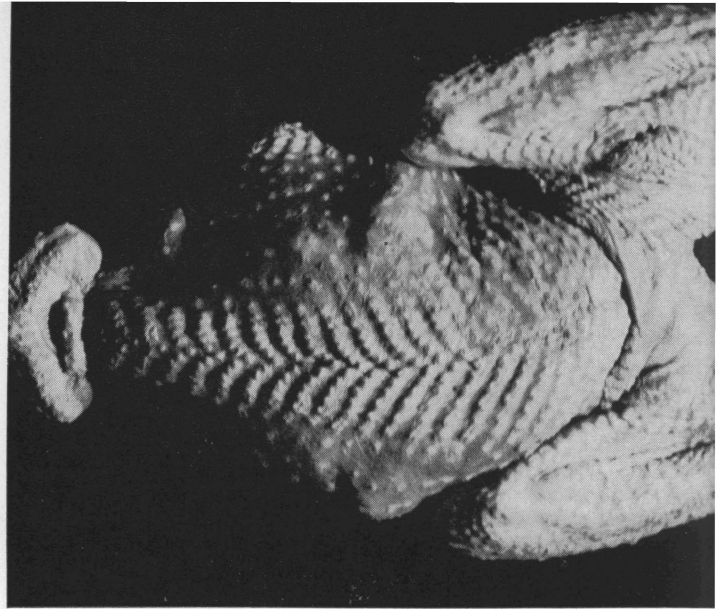
As with bruises the size and location of the cut or tear influence its seriousness. A tear less than three inches on the back would not keep a carcass from being U. S. Grade A, while even a small tear on the breast would keep the bird from being so classified. Tears due to mating can be greatly reduced by good management.

Handle turkeys carefully to help maintain live quality and prevent economic loss.





Hunchbacks, as shown above, usually cause buyer resistance and in turn lessen the market value.



Crooked backs influence grade, percentage of meat to bone, body conformation, consumer acceptance and thus market value.

Deformed Backs

Deformed backs like many other abnormalities reduce the proportion of meat to bone. Such serious defects as crooked backs or hunchbacks are unsightly and make packaging difficult. Turkeys with these defects usually have buyer resistance and less market value. Only when turkeys with these abnormalities are fairly well fleshed are they permitted in U. S. Grade C.

External Parasites

Blemishes caused by irritation from external parasites appear as small red spots on ready-to-cook turkeys. They are usually caused by bluebugs and lice but other parasites may cause similar injuries. Such blemishes detract markedly from the appearance of the ready-to-cook turkey and as a result lower the market quality. Before live birds are marketed they should be examined closely for external parasites and if found, the birds should be treated immediately.

After the treatment, ample time should be given for blemishes to leave the turkeys before they are taken to the market for sale.

Breast Blisters and Callouses

Irritation on the breasts of turkeys sometimes causes blisters and usually contain a watery fluid. These are caused by injury of the skin and muscle tissue. Blisters, as with other abnormalities, are unsightly and objectionable to consumers. A turkey with a breast blister is not permitted in any U. S. Grade.

Callouses are found over the breast bone of some turkeys. These areas of dry, hard and thickened skin are discolored and as such detract from the eye appeal of the ready to cook turkey. Consumers object to callouses on turkeys and so discriminate against them when buying.

Blue Back

Blue back is a common defect found in turkeys with dark pigmented feathers. Due to injury of immature feathers, the ink in the shaft of the feathers enters the tissues under the skin and causes a tattooed appearance on the turkey. This blue pigment under the skin frequently is found on the back, especially around the hips, also the tailhead and less frequently on the breast and legs.

Ready-to-cook turkeys with this condition on the turkey do not have the market demand equivalent to turkeys free of this blemish.