

COOPERATIVE EXTENSION WORK
IN
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THE MARKET EGG

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THE MARKET EGG

When eggs are laid they are sweet, clean, and wholesome. They are one of nature's choicest food products but they are a perishable product. A large number of eggs have lost their attractiveness and palatability and many have deteriorated so far as to be unfit for food before they reach the consumer.

Every Oklahoma egg that becomes a "rot" or deteriorates in quality represents an economic loss to the farmers of this state. It has been estimated that Oklahoma farmers lose \$1,250,000 annually on eggs. A large part of this is a preventable loss. Approximately two-thirds of this is due, directly or indirectly, to allowing roosters to run with the farm flocks. Investigations show that two-thirds of the total egg losses occur on the farm. The entire loss is quite often borne by the producers of eggs as the price paid is adjusted to meet expected deterioration in quality.

Roosters ar Guilty

The rooster has no place in the poultry flock except to fertilize the eggs for incubation. Experiments at the Oklahoma Experiment Station have shown that the most suitable time to hatch chicks is from the latter part of February to the first part of May. This means that the rooster serves his usefulness during not more than three months of the year. He is not harmless in the flock the other nine months of the year, but is guilty of causing the production of fertile eggs.

A fertile egg if held at temperatures ranging from 68 degrees F. to incubation temperature will start to incubate. If held at 85 to 90 degrees for three or four days will show as much chick development as for one day under a sitting hen. Higher temperatures will cause more rapid development. If incubation heat continues for five days or longer, and the embryo lives, the blood vessels become clearly visible on candling. Such eggs are absolutely unfit for human consumption and can be used only as meat food for stock, or for other commercial purposes. If for any reason the embryo dies during the period of its growth, a blood ring is formed by the settling of the blood in the outer boundary of the network of blood vessels. An egg of this type is of no use for human consumption. When eggs are infertile, the greater part of the difficulty in handling them properly is avoided. Incubation heat affects an infertile egg only slightly. The incubation heat tends to cause the albumen to become watery and yolk darkened, but since there cannot possibly be any development of the embryo, the change is gradual and not a putrefactive one. If a fertile egg is to be marketed in good condition every

possible precaution must be exercised to preserve its quality; an infertile egg does not require such extreme care, and may be suitable for food even after being subjected to incubation temperatures.

It is impossible to find a room on many farms during the summer that will be cool enough to prevent fertile eggs from starting to incubate. Fertile eggs that are held several days on the farm are not suitable for market. The remedy for the loss from fertile eggs is to get the roosters out of the flock before hot weather comes. The roosters may be killed, sold, or confined when not needed in the breeding flock. If good breeding males can be purchased reasonably each year the most simple method is to kill or sell all males when hatching season is over which should be not later than May 1. If the males are especially valuable they should be confined and kept from the hens without harm to the males, and at the same time cause a great saving in the quality of market eggs.

Other Causes of Loss

Dirty eggs become inedible very quickly because bacteria may easily pass through a dirty shell. Dirty eggs should not be washed except for immediate use because washing the egg removes the "bloom," a mucilaginous coating which normally prevents bacterial infection. A washed egg spoils rapidly. To prevent dirty eggs, nests should have a clean straw in them and one nest should be provided for every five hens. If too few nests are provided the hens will crowd and broken and smeared eggs will result. The production of some dirty eggs seems inevitable. They should be used at home or marketed separately.

Shrunken eggs often result during warm weather due to faulty handling. Shrunken eggs may be easily identified by the enlarged air cell. The eggs should be gathered often since the body heat of the hens that are using the nests for laying keeps the eggs at incubation temperature. Gathering often prevents eggs chilling during the winter months. Shrunken eggs also result from holding the eggs too long before taking them to market. Eggs should be held at temperatures ranging from 40 to 60 degrees F. When it is impossible to provide suitable temperature for holding them they should be marketed more often. During warm weather eggs should be marketed at least twice a week and more often is better. This loss can be prevented by gathering eggs often, by making sure that no incubated eggs are placed with the market eggs, by storing in a cool place and by sending the eggs to market frequently.

Cracked eggs result in considerable loss that is very largely preventable. Cracked and broken eggs are caused by thin shells, by careless handling, and by lack of sufficient nesting room. An abundance of lime in the form of oyster shell should be provided to insure the production of strong shells. A bucket or basket with some soft material, as straw or excelsior, in the bottom should be used for gathering eggs. Eggs are often broken in the nests because of lack of straw or because two or more hens attempt to crowd on a nest at the same time. This may be prevented by providing at least one clean nest for every five hens.

Bad flavors in eggs are unwholesome and cause a decrease in the consumption of eggs at certain seasons. Bad flavors may result from mold, absorption of odors or feeding of certain feeds. If eggs are held in a damp, musty place mold will develop which causes a bad flavor. Eggs should not be stored with or near onions, cabbage, kerosene, etc., as the odors of these materials are readily absorbed by the eggs. Feeding of such things as onions, garlic, or old process fish scraps will give an unpalatable flavor to eggs.

A dry basement of a well-ventilated "cave" or cyclone cellar is a good place to hold eggs for market. Care must be taken, however, that the cellar be dry, well ventilated and free of obnoxious odors.

Sell Good Eggs

In many communities of Oklahoma eggs are still bought on the case count or ungraded basis. The time is rapidly approaching when every community will have at least one egg buyer who will buy eggs on a candled or loss off basis.

By the case-count system all eggs, good, bad, or indifferent, are purchased at the same price. The result is a uniformly low price because the buyer protects himself against loss. The producer of good eggs suffers on account of his careless neighbor. This system offers little encouragement for the production of good eggs.

The case count basis of buying is rapidly being replaced by the "loss off" method of buying. Under this system eggs are bought on a graded basis, different prices being paid for eggs according to quality. The producer of poor eggs does not want this system.

If the local buyer can not be persuaded to buy according to this system, which is to his advantage also, then the farmer who produces eggs of superior quality should find a new market. Quite often a trade may be developed with hotels, restaurants, fancy groceries, or private trade that pays well for good eggs. These outlets may be found in the local market or at some more distant town or city. If all egg producers delivered good products the local dealer could pay a better price to all. There is always a good market to be found for eggs of the highest quality.

Summary

Loss in market eggs results from:

1. Delivery of fertile eggs to market.
2. Dirty eggs.
3. Washed eggs.
4. Shrunken eggs.
5. Cracked and broken eggs.
6. Bad flavored eggs.

To sell the best market eggs:

1. Kill, sell, or confine the rooster when the breeding season ends.
2. Keep strong, healthy, vigorous stock and care for it properly.
3. Gather eggs often.
4. Provide plenty of clean, well padded nests.
5. Keep out the cracked, dirty, small, and very large eggs for home use.
6. Always keep eggs in a cool, dry place.
7. Keep eggs free from obnoxious odors.
8. Do not wash eggs.
9. Market eggs as regularly and as frequently as possible.
10. Never expose eggs for market to direct sunlight, rain, or to extreme heat.

The pure food laws of the United States and of Oklahoma provide that:

1. Rotten eggs may not be sold for food.
2. Cold storage eggs must be sold as such.
3. Eggs unfit for food purposes may not be shipped in interstate commerce. Violations of these regulations are punishable by fine or imprisonment, or both.