

Proso Millet

for

Hens and Turkeys

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1. Proso, or proso millet, has been grown since ancient times in the Old World as an important grain crop and for human food.
2. Proso millet has been used as a poultry and stock feed in the north central states for many years.
3. Proso is also known ashog millet, grain millet and broom corn millet or "hershey".
4. Proso millet grains are borne in a panicle, like oats, instead of a spike as in the case of foxtail millet. Proso is distinguished from foxtail millet and barnyard millet chiefly by the head or seed bearing part.
5. There are several varieties of proso and, from a practical viewpoint they are classified as red or white depending on the color of the hulls.

Irving J. Mork
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EXTENSION SERVICE
NORTH DAKOTA AGRICULTURAL COLLEGE AND U. S. DEPARTMENT OF
AGRICULTURE COOPERATING

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Distributed in furtherance of Acts of Congress of May 8 and June 30, 1914.

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6. Proso is not a high yielding crop, but it is out the lower water requirement of any grain crop. It may be expected to yield well under moisture conditions unfavorable to other crops. It grows satisfactorily on nearly all types of soil, except coarse, sandy soils.

CHEMICAL ANALYSIS OF PROSO MILLET AS COMPARED WITH CORN.*

	Pro- tein per cent	Fat per cent	Fiber per cent	Cal- cium per cent	Phos- phorus per cent	Ash per cent	Nitrogen Free extract per cent
Yellow Corn	8.9	3.9	2.0	0.02	0.27	1.3	68.9
Proso Millet	11.9	3.4	8.1	0.05	0.30	3.3	63.7

* Ewing's 'Poultry Nutrition' - 4th edition

PROSO CAN REPLACE CORN IN LAYING RATIIONS

Work done at the North Dakota Agricultural College several years ago shows that proso millet is a satisfactory substitute for corn in the rations for laying hens.

The feeding trials were conducted with both White Leghorn and Rhode Island pullets over a 3-year period. The breeds were divided into two pens for each breed; one pen getting corn in its ration and one pen getting proso millet instead of corn.

The trials carried over the 3 years showed that:

1. Proso millet (Early Fortune) was as acceptable and as readily eaten as yellow corn in the diet used.
2. Total feed used per bird was somewhat greater by both White Leghorns and Rhode Island Red pullets when proso millet replaced yellow corn in the diet. The increase in feed used was in the whole grain part of the feed.
3. Average annual egg production per bird was higher in every year of the 3-year trial in the group of White Leghorn pullets where proso millet replaced yellow corn. In Rhode Island Red pullets fed the same diets the reverse was true but the difference was less than in the White Leghorns.

4. Egg size was not affected by substituting proso millet for yellow corn in the diet in either White Leghorns or Rhode Island Reds.

5. White Leghorn pullets for the 3-year period required one-tenth pound less feed per dozen eggs produced with proso millet in the diet while Rhode Island Red pullets required one-half pound more feed per dozen eggs produced when proso millet replaced yellow corn.

6. Rating the diet with yellow corn as 100 percent efficient as a measure of egg production, proso millet proved 107 percent as efficient for White Leghorns but only 96 percent as efficient for Rhode Island Reds. If pounds feed per dozen eggs produced are used as a measure of efficiency proso millet was 102 percent as efficient as yellow corn for White Leghorns and 93 percent as efficient as yellow corn for Rhode Island Reds.

7. Body weight was not influenced by the substitution of proso millet for yellow corn in the diet in either White Leghorn or Rhode Island Red Pullets.

8. There was no indication that death loss in either White Leghorns or Rhode Island Reds was influenced by replacing yellow corn with proso millet.

9. Hatchability of fertile eggs in both White Leghorn and Rhode Island Red pullets was definitely improved by the replacement of yellow corn with proso millet.

10. In the diet used in this trial for laying pullets it is possible to entirely replace yellow corn in both mash and grain mixtures with proso millet and obtain satisfactory and comparable results.

PROSO CAN REPLACE CORN IN TURKEY RATIIONS

Proso millet is widely used to replace corn in turkey rations.

In 3-year trials at North Dakota Agricultural College, three lots of poults were started each year. One lot had corn as the largest amount of grain in the ration. In one lot one-half of the corn was replaced with proso millet. In the ration of the third lot proso replaced all of the corn.

The 3 years of trials showed that:

1. With the ration used in these trials proso millet may be used to wholly or partly replace yellow corn in the ration.

2. Slightly more feed was required to produce a pound of gain in body weight when proso millet was substituted for yellow corn.

FEED CONSUMPTION - POUNDS FEED PER BIRD - DURING 26 WEEKS

Lot I - Corn	Lot II - 1/2 corn, 1/2 proso Millet	Lot III - Millet
Mash -- 40.5	Mash -- 41.9	Mash -- 42.9
Grain--28.6	Grain--32.0	Grain--34.6
Total -- 69.1	Total -- 73.9	Total -- 77.5

POUNDS FEED REQUIRED PER POUND GAIN IN WEIGHT

4- week period	Lot I	Lot II	Lot III
	Corn	1/2 Corn 1/2 Proso Millet	Millet
0-4	2.5 lbs.	2.6 lbs.	2.3 lbs.
4-8	2.6	2.7	2.8
8-12	3.2	3.3	3.3
12-16	3.5	3.7	3.9
16-20	4.7	5.0	5.2
20-24	7.4	7.8	7.6
24-28	13.4	14.1	15.6
Total	4.9	5.2	5.2

3. The substitution of proso millet for yellow corn resulted in better growth in both males and females.
4. The percentage of death loss in poults apparently was not definitely affected by the substitution of proso millet for yellow corn.
5. The percentage of shrinkage in dressing turkeys for market was not significantly affected by the substitution of proso millet for yellow corn in the ration of growing turkeys.
6. The substitution of proso millet in whole or in part for yellow corn produced better finished dressed turkeys with a higher percentage placing in the top grades when all turkeys were dressed for market at 26 weeks of age.