

# FACT SHEET

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## FEEDING BROILERS

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The most expensive item in the production of broilers is feed. Feed represents about 73 percent of the cost of producing a broiler. Therefore, it is extremely important that optimal feed conversions be obtained. The following table shows how differences in feed conversions influence feed costs.

Increase in feed conversion	Cumulative	
	Increased amount of feed	Increased cost per bird (based on a 4. lb. bird and feed at 8¢ per pound)
	(lbs.)	(cents)
.01	.04	.32
.02	.08	.64
.03	.12	.96
.04	.16	1.28
.05	.20	1.60
.10	.40	3.20
.20	.80	6.40

From this we can see that 10 or 20 points difference in feed conversion significantly affects the feed cost per bird. Management practices can greatly influence feed conversions. Feeding equipment and practices, litter management, ventilation and disease prevention all play a role. Close attention is necessary to minimize feed wastage regardless of the feeding system used. Periodic observations and adjustments of chain speed, depth of feed in the trough, duration of running time and trough height should be made to minimize feed wastage with mechanical feeders. If chain speed is too slow, the depth of feed in the trough at the hopper will be too high, resulting in feed spillage. Running the feeder too long will cause feed to pile up at the return to the hopper. The height

of the trough should be at the level of the back of the bird, but not so high as to make feeding difficult. It is a good practice to allow birds to clean out the feeders between running periods. How often and how long the feeders are run will depend on feeder chain speed, length of feeder line, depth of feed in the trough and age of the birds. The feeding schedule should be determined by watching the birds and adjusting feeding intervals and times to their requirements.

Litter management can indirectly affect feed conversions, because disease problems may develop in a flock when poor litter conditions are maintained. Wet litter is an excellent medium for coccidial, fungal and bacterial development. Birds grown on wet and caked litter have an increased chance of developing coccidiosis, enteritis or other diseases. Any disease that destroys or injures the intestinal lining can drastically affect feed conversions. When the intestinal lining is destroyed or injured, the absorption of nutrients is suppressed. All watering systems should be kept free of leaks. When wet litter does occur, it should be removed or stirred under. Caked litter should be removed.

Proper ventilation is a part of good management. Over-ventilation in cool weather lowers house temperatures and can contribute significantly to inefficient feed utilization. Under-ventilation, on the other hand, can result in poor house conditions leading to poor growth and disease problems. During hot summer weather, air movement around the birds should be maximized to reduce heat stress which can cause substantial losses in the form of reduced growth rates and poorer feed conversions. The broiler grower should ventilate at a rate allowing an optimum balance between air exchange and an increase in air temperature. Since houses and even locations within a given area differ in ventilation characteristics, each producer should become acquainted with his own particular situation.

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## Feeding the Birds

By the manipulation of amino acids and energy levels of the diet, and with proper management, it is possible to obtain average weights of 4 pounds per bird with a feed conversion of two or less at approximately 56 days of age during the fall and spring months. In winter months, more feed is required to maintain body temperature when houses are not properly heated or ventilated.

The accompanying broiler starter, grower and finisher formulas have given excellent performance in practical use. Appropriate modification of the grain and protein sources can be made, depending on their price and availability.

## Protein

For maximum performance, broiler starter formulas should contain approximately 23 to 24 percent protein from sources that will provide a balanced mixture of the essential acids required by the chick. The broiler starter is normally fed for the first 3 weeks (or 1 pound of feed per bird), then a broiler grower is fed until the birds are approximately 49 days old. After this, they are fed a non-medicated finisher diet.

## Pigmentation

Individual market and consumer preference dictates the degree of skin pigmentation desired. Pig-

mentation can be decreased by acute or chronic disease problems. Pigmenting ingredients include yellow corn, dehydrated alfalfa meal and corn gluten meal. Pigmentation in the birds can be increased by raising the level of these ingredients in the formulas.

## Vitamins

To insure adequate amounts of micro-nutrients, the manufacturer's recommended levels of vitamin premix per ton of finished feed should be added. This premix should contain: stabilized vitamin A, 10,000,000 IU; vitamin D<sub>3</sub>, 2,000,000 ICU; vitamin E, 5,000 IU; riboflavin, 4 grams; D-calcium pantothenate, 10 grams; niacin, 30 grams; vitamin B<sub>12</sub>, 12 milligrams; choline chloride, 454 grams; and menadione sodium bisulfite (vitamin K), 2 grams.

## Coccidiostat

A good coccidiostat should be included in every broiler diet. The choice of a specific one usually is determined after experience has shown which gives the best results for the local situation. Every coccidiostat should be used according to the directions of the manufacturer, including withdrawal where necessary.

Table 1. Broiler feed formulas.

Ingredients	Starter 0-21 days 1 lb./bird	Grower 21-49 days	Finisher 50-56 days
Yellow corn (9%)	1156.00	1286.00	1392.00
Soybean meal (50%)	640.00	500.00	410.00
Fish meal	60.00	60.00	50.00
Defluorinated rock phosphate (10%)	35.00	35.00	30.00
Stabilized fat	90.00	100.00	100.00
Salt	4.00	4.00	4.00
MnSO <sub>4</sub>	0.50	0.50	0.50
ZnSO <sub>4</sub>	0.50	0.50	0.50
Vitamin mix	*	*	*
DL-Methionine (98%) or equivalent amount of MHA	3.00	3.00	3.00
Coccidiostat	1.00	1.00	—
CaCO <sub>3</sub>	10.00	10.00	10.00
Protein, %	23.00	20.00	18.00
Calories (ME/lb.)	1460.00	1500.00	1525.00
Methionine, %	0.54	0.52	0.44
Lysine, %	1.30	1.10	0.95
Ca, %	0.94	0.93	0.86
P (total), %	0.76	0.75	0.66
P (inorganic), %	0.40	0.40	0.34
Xanthophylls (mg./lb.)	5.78	6.42	6.95

\*Use vitamin supplier's recommended level of vitamin premix (usually 5 to 10 pounds per ton).

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