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Ratite Nutrition and Feeding

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There is limited quality research concerning the nutritional requirements of Ratites. However, some dependable guidelines have been established because of work completed in Australia and Africa. As in all diet formulations, a variety of high quality ingredients should be used to meet the nutrient recommendations of the Ratite. Using a wide variety of ingredients helps to decrease the effect of variations that are inherent in all ingredients.

Recommendations for Ratite Diets:

Probably the greatest concern of the Ratite farmer is related to the protein content of the diets being fed to their birds. Some growers feel that the higher the protein the better. This is not necessarily true. Protein value is of greater importance. When the amino acids are balanced, protein content can be reduced without decreasing the quality of the feed. In fact, high levels of unbalanced proteins can be detrimental to bird growth and performance. In a worst case scenario, if an amino acid is deficient in the diet, the birds may actually consume markedly more feed without increased performance and possibly decreased performance.

Another concern of Ratite growers is related to vitamin and trace mineral levels. Again, the level of individual vitamins and minerals are important but not as important as balance. The balance of the vitamins and minerals are of utmost importance. There are many interactions between many of these required micronutrients. If one particular nutrient is very high in the diet, that nutrient may actually reduce the absorption or metabolism of another nutrient. Therefore, the addition of high levels of a particular nutrient to the diet because of a report of its importance may result in more damage than good.

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Recommended Vitamin and Mineral Levels for Diets		
Item	(source)	Amount per ton
Vitamin A	(vitamin A acetate)	12,000,000 I.U.
Vitamin D 3	(cholecalciferol)	3,900,000 I.C.U.
Vitamin E	(dl-alpha tocopherol acetate)	45,000 I.U.
Vitamin K	(menadione sodium bisulfite complex)	15,000 mg
Vitamin B 12	(cyanocobalamin supplement)	25 mg
Folic acid	(folic acid supplement)	2,100 mg
Riboflavin	(riboflavin supplement)	11,000 mg
Niacin	(niacin or niacinamide)	56,000 mg
d-Pantothenic acid	(d-calcium pantothenate)	21,000 mg
Pyridoxine	(pyridoxine hydrochloride)	8,000 mg
Thiamine	(thiamine mononitrate)	4,000 mg
Choline	(choline-Cl)	450 gm
d-Biotin	(d-Biotin supplement)	150 mg
Selenium	(sodium selenite)	272 mg
Manganese	(manganous oxide)	80 gm
Zinc	(zinc oxide)	80 gm
Iron	(ferrous sulfate)	45 gm
Copper	(copper sulfate)	10 gm
Iodine	(calcium iodate)	1 gm

Suggested Minimum Nutrient Compositions				
Nutrient	Starter 0-8 wks	Grower 8-25 wks	Maintenance Over 25 wks	Breeder
Met Energy (poultry)	1200	1200	1200	1150
Crude protein (%)	18.0	17.0	16.0	16.5
Fat (%)	3.0	2.5	2.5	3.5
Linoleic acid (%)	104	1.4	1.4	1.4
Lysine (%)	0.9	0.78	0.75	0.75
Methionine and	0.7	0.60	0.55	0.60
cystine (%)	1.25	1.25	1.25	2.50
Calcium (%)	0.90	0.90	0.90	0.75
Phosphorus (%)	0.68	0.65	0.65	0.52
Available Phos (%)	0.22	0.22	0.22	0.22
Sodium (%)				

Suggested Ingredients, minimums and maximums (lbs/ton)				
Ground Yellow Corn	0-800	0-800	0-800	0-600
Wheat middlings	0-450	0-600	0-400	0-650
Soy (44% CP)	0-300	0-250	0-350	0-250
Corn Gluten Meal	0-200	0-200	0-200	0-200
Barley	0-200	0-200	0-200	0-100
Oats	0-100	0-100	0-100	0-100
Wheat	0-300	0-300	0-300	0-300
Meat & Bone (50% CP)	0-150	0-150	0-100	0-100
Alfalfa meal (dehy)	0-200	0-200	0-200	0-200
Fat	0-80	0-80	0-50	0-100

Deflourinated Phosphate, Limestone, D,L Methionine (99%), L-Lysine.HCl, Salt, Vitamin, and Minerals should be added as required to meet recommendations.

When the feed is manufactured, care should be taken to produce a consistent particle size. The Starter feed should be offered in the crumbled form. All other feed should be pelleted.

Feeding Your Birds

If the decision is made to change to this type of formulation, several management procedures should be followed. Always change from one type of feed to another slowly i.e., begin mixing the new diet into the diet which you have been feeding your birds. Initially, mix 1/4 new to 3/4 present diet. After four days, mix the diets 1/2 to 1/2. After eight days, mix the diets 3/4 to 1/4 of the old diet. After two weeks of this process the new diet should totally replace the feed from which the change was made. It is very important to make a slow transition. Problems may arise if a quick change is made. For example, birds may avoid the feed, birds may develop diarrhea, or other responses may be noted. A feeding program is only as effective as the management practices followed.

Birds should be offered an amount of feed on a daily basis that they will actually consume. Forcing the birds to "clean-up" the feed on a daily basis results in the birds consuming a more balanced diet. This keeps birds from picking through the feed and excluding certain constituents from their diet. A feed that is properly pelleted, should not be a problem. Also, leftover feed will either be wasted, get wet and mold, or draw predators and rodents. None of these alternatives are very good for production. Again, management is very important in accomplishing this recommendation. The grower must monitor the consumption of the birds very closely. Do not assume that consumption of feeds used in the past will be the same as new formulations. Feed should be weighed-in in the morning. If feed remains at night, this should be removed and weighed. Feed additions the following day should be consistent with the consumption of the previous day. Growing birds may eat more in subsequent days. If the feed runs out during the day, increase the feed input by 5 to 10 percent on the following day and record the results for future reference.

Reviewed by Audrey McElroy, associate professor, Animal and Poultry Sciences