

Earth Materials

growth trials show no benefit to chicks on practical starting ration

F. H. Kratzer and C. R. Grau

Results of growth trials with young chicks indicate no justification for the use of natural earth materials in rations for those chicks fed a practical starting ration.

Natural earth materials increase the cost of the ration considerably and are of no benefit to the birds.

The established mineral requirements of poultry for calcium, phosphorus, manganese, sodium, and iodine must be given special consideration in formulating rations, but several other elements needed are supplied adequately by the usual poultry feedstuffs.

Mineral supplements, which supply one or more of the needed elements, have

a valuable place in formulating adequate rations. There are, however, several natural earth materials available to feed manufacturers and poultrymen that are poor sources of the elements which are known to be needed in poultry rations. On the other hand, fluorine is present in only small amounts and far below a level which would be considered toxic.

To determine whether several of the natural earth materials available to feed manufacturers and poultrymen have any value for a growing chick, two growth experiments were conducted with chicks in batteries. In the first trial, two products were tested by adding each at a 2½% level to a practical starting ration.

Analysis of Natural Earth Materials (%)*

	Calcium	Phosphorus	Manganese	Sodium chloride	Iodine	Acid insoluble ash	Fluorine
Range . . .	1.5-3.9	0.03-0.23	0.008-0.025	0.0-0.3	0.0007	52-92	.002-.018
Rep. value	2.5	0.1	0.015	0.1	0.001	73	0.01

* Data supplied by Feed Control Laboratory, Bureau of Field Crops, California Department of Agriculture, Sacramento.

Infectious Bronchitis

vaccines released for growing birds not yet tested for laying hens

R. A. Bankowski and D. E. Stover

Infectious bronchitis is widely distributed in the major poultry raising areas in California. However, all respiratory diseases of poultry are not caused by infectious bronchitis virus. Vaccination with a live virus vaccine against an impending respiratory disease should not be attempted until the respiratory condition for which the vaccine is intended has been correctly diagnosed by a qualified veterinarian or laboratory.

Vaccines for infectious bronchitis consist of live—though modified—virus. Selected strains of the virus have been weakened, by one means or another, to produce a modified form of the disease but are intended to retain their immunity-producing qualities.

Release of commercial vaccines by the Division of Animal Industry of the California Department of Agriculture—the responsible authority for releasing these products—does not mean endorsement of either the effectiveness of the vaccines against infectious bronchitis or of the duration of the immunity they may produce.

Granting of authority to use such vaccines in the state means only that samples tested—by the University of California School of Veterinary Medicine—will not cause excessive mortality or serious reactions in growing chickens. It cannot be determined yet—nor perhaps for several years—how effective a vaccine may be or how one compares with another. These

The rations were fed to newly hatched Single Comb White Leghorn chicks of mixed sexes for a four-week period. Gains of the chicks fed the supplemented rations were very similar to those of the control chicks, as shown by the following table.

Effect of Natural Earth Materials Upon the Growth of Chicks.

Ex-periment I	Level %	No. per group	Average cumulative gain (grams)				
			1	2	4	6	8
Control . . .		25	23	63	195		
Sup-plement No. 1	2½	25	27	60	197		
Sup-plement No. 2	2½	25	22	58	180		
Ex-periment II							
Control . . .		9	66	159	376	664	1016
Sup-plement	2½	10	55	138	361	663	998

In the second experiment, Single Comb White Leghorn cockerel chicks approximately 10 days old were used. Chicks fed 2½% of the natural earth material failed to make as rapid growth for the first two weeks of the trial, but at the end of eight weeks, there was little difference between the supplemented and the control groups.

The trials showed that natural earth materials did not improve the growth of young chicks.

F. H. Kratzer is Associate Professor of Poultry Husbandry, University of California, Davis.

C. R. Grau is Associate Professor of Poultry Husbandry, University of California, Berkeley.

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problems will require extensive laboratory and field observations.

Representative samples of vaccines—submitted by the manufacturers which pass the tests—are no guarantee that all additional lots of infectious bronchitis vaccine shipped into California in the future will be equally safe to use.

Poultrymen must study carefully the recommendations set down by the manufacturers of these new vaccines. The difference between manufacturers' statements is considerable and calls for cautious judgment by the commercial poultry raiser.