



The feeding of the experimental chicks is carefully controlled.

Alfalfa Growth Factors For Chicks are Checked

By A. R. Kemmerer

During the last few years, considerable effort has been expended by nutritionists and biochemists to determine unidentified factors in feeds necessary, or at least beneficial, for chickens. Notable achievements have been the discovery of vitamin B₁₂ and other factors in animal proteins that are beneficial for chickens. These substances are now incorporated in many commercial poultry feeds. Sardine meal and dried skim milk are examples of good sources.

Very little work has been done on the possible existence of factors, not yet identified, in plant materials that exert a beneficial effect for chicks. With financial aid from the American Dehydrators Association, the Department of Nutrition has found that alfalfa meal dehydrated under carefully controlled conditions contains unidentified factors which apparently stimulate the growth of chickens.

The table above gives an example of the data obtained from the experiments. The basal diet in the table contains all the known ingredients necessary for chicks. The addition of

Growth Stimulating Effect of Dehydrated Alfalfa Meal

Diet	Increase in Weight in 4 weeks
Basal diet	341 gm.
Basal diet plus dehydrated alfalfa	398

dehydrated alfalfa meal to the basal diet caused an increase in the growth rate of the chicks.

However, the growth rate of some hatches of chicks was not stimulated by alfalfa. Experimental evidence shows that these chicks were hatched with appreciable amounts of the stimulating factors stored in their bodies.

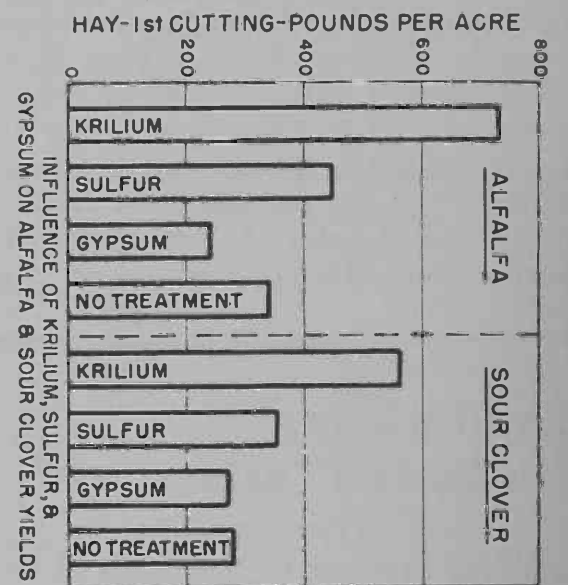
Alfalfa is not the only source of this growth stimulating factor. Brewers yeast when added to the basal diet also produces a growth stimulating effect. This, however, does not detract from the value of alfalfa as a source of the factor. Food factors are usually found in more than one source.

—A. R. Kemmerer is Head of the Department of Nutrition.

What is Krilium?

(From page 5)

ably favorable influence on both alfalfa and sour clover hay production.



Soil aggregate formation, a measure of physical condition of the soil, also was much greater in the Pima clay as a result of application of Krilium. Controlled greenhouse investigations showed that the structure of two problem soils, Casa Grande loam and Gila fine sandy loam, could be improved greatly by Krilium. Not only was the surface condition made much more loose and porous, but soil structure at a depth of 27 inches in the steel drums was improved over that of the untreated soil.

Costs About \$2 per Pound

Krilium is expected to cost about two dollars a pound when released for commercial use. However, like many new synthetic compounds, the cost of manufacturing should drop to a level that is more compatible with its value in improving crop production. Even so, a considerable reduction will be necessary before Krilium can be economically used on a field scale, since 400 to 2,000 pounds Krilium per acre has been recommended for most effective results.

Krilium has not been released for general farm use, since it still is considered to be in the experimental stage.

—W. H. Fuller is Associate Biochemist; H. P. Cords is Assistant Agronomist.