NITROGEN RELATIONS OF CERTAIN CROP PLANTS WHEN GROWN ALONE AND IN ASSOCIATION.¹

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A knowledge of the behavior of leguminous and nonleguminous plants when grown in association is of practical and also of considerable scientific interest. The investigations recorded here were prompted by the comparatively recent work in this country reported principally by Lyon and Bizzell, Lipman, and Westgate and Oakley. An examination of the results of these workers shows that very often the nitrogen composition of a nonlegume is increased when grown with a legume, tho this is not always the case. Apparently much depends upon the climatic and soil conditions under which legume-nonlegume mixtures are grown as well as upon the composition of the mixtures themselves.² Westgate and Oakley incorporate a fortunate note of warning in their conclusion:³

The data . . . would seem to indicate that the phenomenon of increased protein content in the nonlegume by reason of its association with the legume is not so universally true as to make it safe to advocate the method unreservedly as a means of increasing the production of protein upon the farms of this country.

¹ These investigations were conducted under the direction of Karl F. Kellerman, Bureau of Plant Industry, U. S. Department of Agriculture. The paper was received for publication September 12, 1918.
