

trogen recovered in the harvested grasses during the high fertility phase, from May 9, 1958, to April 9, 1959, and the percent recovery of the 330 pounds applied during this period.

### **Potassium Fertility**

The effect of potassium on yields and dry matter, crude protein, and potassium contents are listed in Table 8. Besides the data for the May 9 harvest, the effects of potassium on the total yields from six harvests beginning February 28, 1957, and ending July 14, 1958, are included. The cuttings made on June 12 and July 14, 1958, were included in the totals, even though all plots received potassium fertilizer in May and June, because there was still a slight but significant response. (Evidently insufficient quantities of potassium were applied to effect a rapid recovery in growth rate.)

Although total average yields were significantly larger where potassium was applied, a much greater response to potassium was noted for the May 9 cutting. Pangolagrass produced 10 times more dry matter when potash was used in the fertilizer, and the other grasses responded in a similar but less pronounced manner.

There was no significant effect of potash on the dry matter contents of the various grasses with the exception of the May 9, 1958, harvest.

There was no significant effect of potash on the crude protein contents until the cuttings of December 2, 1957, and May 9, 1958. In the December harvest pangolagrass fertilized with potash contained significantly less crude protein (4.2 percent) than the unfertilized grass (6.1 percent). There were no significant differences in protein contents of the other grasses attributed to potash. Generally, potassium deficiency resulted in higher protein contents in the grasses only in instances where the production of these grasses was limited. On May 9 crude protein contents of pangolagrass were almost twice as large where no potash was used in the fertilizer. The other grasses responded in a similar but less pronounced manner. It should be remembered that the total protein produced was generally much greater where potassium was supplied, even though the percentage protein composition was less.