A METHOD FOR ESTIMATING FORAGE YIELDS*

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- Pasture productivity is measured as a function of the average height of the forage or the percent ground cover.
- Height correlated with yield from 0.001 A. quadrats.
- Correlation coefficients were determined between height (average for a 2-ft. × 4-ft. plot) and dry-matter yields of several forages. All coefficients significant at P < .01 except as noted.
- Table 1: Correlation coefficients between dry-matter yields of several forages and various parameters of the sward.
- Table 2: Correlation coefficients between predicted yields and the actual yield of the forage from 0.0001 A. quadrats and various parameters of the sward.
- Predicting yields: Correlation coefficients ranging from .60 to .92 were noted in a grazed orchardgrass-ladino clover pasture. All coefficients significant at the 5% level and usually so at the 1% level. Further, combining the two parameters into the coefficient of determination was always significant at the 5% level and usually so at the 1% level.
- The product (V) is related to the height and ground cover of the sward.
- The average of the midpoint of the height of a 24-in.-square board dropped onto the foliage was an unbiased estimate of the percent ground cover.
- The accuracy of the estimate was later improved by inserting a centimeter rule horizontally along the soil surface into the sward and thereafter using a simple method which effectively estimated the percent ground cover.
- The correlation coefficients were significant at the 1% level.
- Further studies using a 1/16-inch plywood board cut to the size of a 0.0001 A. quadrat (about 2 feet square) revealed similar correlation coefficients.
- The moisture tension was measured by tensiometers located in the soil which tensions could be controlled by this system. The soil moisture tension could be regulated and the amount of variation was about ±50 cm. at no time or tension was the soil or any portion of it saturated under this system, whereas surface watering with variations of 100 to 200 cm. tension per day in pots was avoided by a simple method which effectively regulated the moisture tension, eliminating small leaks do occur the air bubbles appear in the plastic tubing and can be flushed out without disturbing the crop.

* Pasture productivity is considered a function of the average height of the forage or the percent ground cover.