

and dry weight yields were calculated and presented on an oven-dry basis. The AOAC Method (13) was used to determine nitrogen in the grasses. Crude protein values were obtained by multiplying the nitrogen contents by 6.25. A nitric-perchloric acid wet digestion method was used for the determination of potassium with a Beckman model DU flame emission spectrophotometer (17).

Conventional statistical techniques as outlined by Patterson (14) were used throughout.

RESULTS

Yields

Low Fertility—Dry weight yields of six cuttings made from April 1956 until December 1957 are reported in Table 2. Yields increased from spring through summer and began decreasing as winter approached. In 1956, large yields were obtained from pangolagrass, "Giant" pangolagrass, and the bermudagrasses for the April and August harvests. Relative production from the bahiagrasses was high for both August cuttings but much lower for all other cuttings. Carpetgrass yielded least and was followed closely by fescuegrass.

A comparison of the ability of the different grasses to grow during cool weather under a minimum fertilizer program can be made by an examination of temperature data and yields for February 27 and December 2, 1957. Daily low fall temperatures in 1956 did not drop below 60°F until November; and, therefore, rather warm temperatures were the general rule from August until the harvest on November 1, 1956. From November until the February 27, 1957, harvest, temperatures were much colder. In 1957, minimum air temperatures of below 60°F were noted from the last of October through November, and these would have adversely affected grass growth and yields of the harvest in December 2, 1957. Therefore, the yields of February and December 1957 can be used to reflect the ability of the grasses to grow during cold weather. The yields on February 27, 1957, showed that cold weather was particularly effective in reducing bahiagrass and carpetgrass growth to about 25 percent of that for pangolagrass. In December 1957, cold weather reduced yields of other grasses to about one half the yields of pangolagrass and the bermudagrass. Total yields for the December and February harvests were between 4,400 and 5,400 pounds of dry matter per acre for pangolagrass and the bermudagrasses, compared to ap-