

$\frac{1}{2}$  pound of equivalent  $K_2O$  per 1,000 square feet should be ample unless the amount of nitrogen being used is exceptionally high.

Inasmuch as recommendations are nearly always given in pounds or equivalent  $K_2O$ , it is necessary to be able to calculate the amount of potassium fertilizer or mixed fertilizer needed to attain the recommendation. Suppose it is desired to apply one pound of equivalent  $K_2O$  per 1,000 square feet using a 12-4-8 fertilizer. The amount of the 12-4-8 fertilizer needed would be calculated as follows:

The equivalent percentage of  $K_2O$  in the mixed fertilizer is 8%, therefore each 100 pounds of the fertilizer contains 8 pounds of equivalent  $K_2O$ . Since one pound is  $\frac{1}{8}$  of 8 pounds,  $\frac{1}{8}$  of 100 pounds is 12.5 pounds, the amount of the 12-4-8 fertilizer which should be applied to 1,000 square feet. Such an amount of 12-4-8 would supply also  $1\frac{1}{2}$  pounds of equivalent N and  $\frac{1}{2}$

pound of equivalent  $P_2O_5$ .

Soluble salt crystals which cling to the foliage cause the injury called burning. Pelleted fertilizers are less likely to cause burning than crystalline or powdered materials. It is well to keep in mind that potassium fertilizer materials like nitrogen materials have a salt effect and will burn the turf if not applied properly. Potassium materials can be applied dry but to prevent burning the turf must be sprinkled immediately to wash the fertilizer off the tops. Muriate of potash can be dissolved in water and applied as a solution. It should be borne in mind also that uniform distribution of fertilizers is essential.

Potassium has been aptly called the neglected nutrient. Its effect on the growth and appearance of grass is not as pronounced as that of nitrogen, therefore a deficiency of potassium is not so evident and is often overlooked. From experimental evidence, we are certain that proper attention to potassium fertilization is essential for a healthy, vigorous turf.

## Flood Damage in Oregon

The photographs on the next page and the front cover show some of the damage suffered by the Illahe Hills Country Club course in Salem, Oregon, from flooding of the Willamette River during Christmas week, 1964. Two greens were totally destroyed and although reconstruction is now underway at least seven months and a considerable expenditure will be needed before complete recovery is achieved.

The 11th green (see front cover) is situated in a bend of the river and was under 10 feet of moving water at the crest of the flood. It seems apparent that most of the damage to the green

was caused by swift moving logs or trees as they floated down the stream and across the green. They tore through the sod, exposed the soil below and allowed the erosion process to begin.

To guard against future severe damage from flooding, the Club is considering elevating the green by several additional feet and having the elevation taper off to the upstream side. Also under consideration is the use of pilings on the upstream side to divert the flow around the green and to prevent debris from passing over it during flood stage.

