

air in the form of synthetic compounds. In 1934 these synthetic products resulting from the industrial "fixation" of nitrogen of the air furnished 74.5 percent of the world's supply of nitrogen. Only 7 percent came from the deposits in Chile and the remaining 18.5 percent from by-products in the manufacture of coke and gas from coal.

SOIL FERTILITY AFFECTS KENTUCKY AND CANADA BLUEGRASS

The reason why Kentucky bluegrass grows on one soil and Canada bluegrass on another was studied by Hartwig in New York, who published his results in the Journal of the American Society of Agronomy. Two areas were examined, in one of which Kentucky bluegrass (*Poa pratensis*) was dominant, in the other, Canada bluegrass (*Poa compressa*). In both areas patches of the other species occurred and soil samples were taken under each species in both areas.

These areas were studied in various ways. Contrary to the prevailing notion that *Poa compressa* is found on the more acid soils, Hartwig found the acidity of the soil under this species lower than under *Poa pratensis*.

The most important feature was that under *Poa pratensis* there was generally more total nitrogen and more available phosphate than under *Poa compressa*, though the difference in the quantity of phosphate was small. From this it would seem that the former occupied the more fertile spots. This idea is in harmony with Hartwig's observation that in the area where Canada bluegrass is dominant, pastures which receive much manure soon become set with Kentucky bluegrass.

SHADE AFFECTS ACTION OF SULFATE OF AMMONIA ON TURF

Recently two British investigators, Blackman and Templeman, publishing in the Annals of Applied Biology, have discussed certain conditions under which sulfate of ammonia does not benefit grass and discourage clover. Where the shade is deep enough to limit growth (where the light intensity is equal to less than .44 that of daylight) apparently it is the grass and not the clover which is adversely affected by the addition of sulfate of ammonia.

The production of leaves depends upon the grass plant taking up nitrogen from the soil and synthesizing proteins within its cells by chemically combining the absorbed nitrogen with the carbohydrates