ent from the percentages obtained by the two sampling methods. Consequently, the sampling methods accurately estimate the proportion of soils on the three map sheets and give an estimate of proportion of soils in this association.

The ANOVA of percentages of Coly soil shows that replications are the major source of variation in partitioning the sums of squares (SS) in Table 3B. This result is also true for percentages of Holdrege soil, but not for percentages of Uly soil. Since the SS for replications is many times greater than the SS for residuals (error), the differences between mean percentages are real and the replication of soil transects improves the accuracy in measuring the mean proportion of soils in an association.

The map unit frequency and map unit area sampling methods estimated accurately the percentages of soils in the Uly-Coly association. These percentages can be used as a starting point in evaluating the composition of soil associations. The soil scientist will have to experiment and choose a method which is suited to the survey location. The map unit frequency method is easier to use than the map unit area method, if the acreage data of each map unit on the atlas sheets are not complete or accurate. The map unit area method samples minor soils accurately (Table 2). If the proportion of minor soils is of greater interest to the researcher, then the map unit area method may be advantageous to use.

References


Podzolization in the Great Smoky Mountains

James A. Wolfe

Introduction

Podzols have long been associated with the great expanse of boreal forest that stretches across the northern hemisphere. Extensions of this northern coniferous or spruce-fir forest reach southward along mountain crests. Isolated areas occur even further south on the highest peaks.