The vetch roots increased the yield of corn 7.4 bushels. Where the tops were also turned under an additional 9.8 bushels of corn were obtained. The test was conducted on Ruston fine sandy loam. The plats were 1/35 acre in size, and there were nine replications.

In this test the vetch was scraped off with a hoe and all of the tops removed. Where vetch is cut for hay, some of the tops will be left on the ground, and, on the basis of the data presented, these tops together with the roots will probably increase the yield of corn a little better than half as much as where the whole vetch plant is turned under. In other words, cutting vetch for hay will leave half of its crop-producing value in and on the soil for corn production.

Similar or better results can probably be obtained when the vetch is grazed off by livestock as when cut for hay.—W. B. Andrews, Agricultural Experiment Station, State College, Miss.

A SAMPLER FOR SURFACE SOILS

In taking samples of surface soil for moisture determination or for chemical analysis it is desirable to take a uniform core of soil from the surface to a given depth. In cultivated soils this is impossible with an auger because the dry soil at the surface falls away and the resulting core is not representative of the surface soil as it existed in the field. Samples obtained with a spade are too large to handle, and if an aliquot is taken, a serious error may result from improper mixing before taking the aliquot.

A tubular sampler seems to be the best tool for this purpose and many such samplers have been described in the literature. The sampler herein described varies from the usual tubular type in that the bore is not uniform throughout. This arrangement eliminates some of the difficulties encountered with the uniform bore sampler.

In a tubular sampler of uniform bore the friction on the walls causes a compaction in the core which tends to push the core downward instead of cutting it cleanly and without disturbance. Errors in sampling are thus introduced. Furthermore it is difficult to remove the core from such a tube. This difficulty has been only partially overcome by cutting a slot in the side of the tube for a portion of the length. This arrangement has a disadvantage in that it weakens the tube.