Acetic Alcohol as a Killing and Fixing Agent in Plant Histology.

By F. L. Pickett.

The writer has found a solution of 5-8% of glacial acetic acid in absolute alcohol a splendid killing and fixing agent in preparing histological material. For the best results the alcohol should be heated to its boiling point on the water bath before the addition of the acid and specimens. For large pieces of stems with well developed wood, the fixing agent is prepared in a flask and is allowed to boil after the specimens have been placed in it. Tight corking of the flask and immediate cooling causes the withdrawal of air from vessels and spaces and allows immediate penetration of the reagent. The acid should be washed out with three or four changes of alcohol and then the specimens imbedded in paraffin in the usual manner. Hard specimens should be washed in alcohol and then be placed in a mixture of three parts 80% alcohol and one part glycerine for preservation.

This solution has been used successfully with leaves, rust, stems, embryos in situ. It has the advantage over alcohol alone of causing less shrinking and of fixing cell contents quite well enough for this line of work. Specimens are not discolored by precipitates, as is often the case with chromic acid mixtures; and much time is saved by the elimination of long washing in water and dehydration before imbedding.