

A METHOD OF STAINING MICROSCOPIC SLIDES FOR BEGINNING STUDENTS.

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Those who teach botany and zoology know that the best material is none too good for beginning students. Advanced classes can get on with somewhat inferior material, but it is not so with beginners in these subjects. Some years ago Professor J. H. Schaffner said that he had used nigrosin in combination with picric acid for a cell wall stain with marked success, but that he did not remember the exact method. The writer has worked with this stain for several years and has found it to be excellent as a contrast stain with safranin.

The thinnest cell walls may be made visible with this stain with comparative ease; they are stained dark blue to black. The nigrosin will not fade if the picric acid is used and if the dehydrating alcohols during the staining and mounting process are made from absolute methyl alcohol (CH_3OH) C.P. and acetone-free. One of my colleagues has used this with animal tissues with excellent results.

The schedule is as follows:

Formula for stain: 1% aqueous solution of nigrosin
1% aqueous solution of picric acid C.P.
Equal parts of these solutions are mixed
at the time of using.

1. Over-stain with safranin and destain until the nuclei and the lignified cells are the only ones retaining the safranin.
2. Wash with water.
3. Stain with the picro-nigrosin stain from thirty seconds to several minutes. This time varies with the material and thickness of the sections.
4. Wash in 50% alcohol (methyl, C.P. and acetone-free). In some cases the sections will clear better if a few drops of ammonia are added here. This is not often necessary.
5. Clear and mount in balsam.