

Order *Stemonitaceae*.*Stemonitis tenerrima* B. and C., Morg.*Stemonitis smithii* Macbride.*Stemonitis webberi* Rex.*Stemonitis confluens* Cook and Ellis.*Comatrichia obtusata* Preuss.*Comatrichia persoonii* Rost.*Comatrichia laxa* Rost.*Lamproderma arcyronema* Rost.Order *Reticulariaceae*.*Enteridium rozeanum* (Rost) Wingate.Order *Heterodermaceae*.*Lindblandia tubulina* Fries.Order *Lycogalaceae*.*Lycogala exiguum* Morg.*Lycogala flavo-fuscum* Rost.Order *Arcyriaceae*.*Arcyria incarnata* Pers.*Arcyria oerstedtii* Rost.*Arcyria digitata* (Schw) Rost.*Arcyria ferruginea* Sauter.*Arcyria cinerea* (Bull) Pers.Order *Trichiaceae*.*Hemitrichia intorta* Lister.*Hemitrichia karstenii* (Rost) Lister.*Trichia rubiformis* Pers.

## EXPERIMENTS WITH SMUT.

BY M. B. THOMAS.

On two previous occasions I have reported to the Academy some special progress made with experiments with formalin as a fungicidal agent.

The first report included the results of a series of experiments upon the effects of formalin in different strengths of solution, with varying periods of time, on the germinating power of a number of cereals.

The second report was the result of a practical field experiment based on the facts discovered by the earlier investigations. The conditions of this field experiment were not as trying or severe as might be desired, and although the results were highly gratifying, yet they did not seem as conclusive as we could wish. Accordingly, the past summer, another field experiment, on a somewhat larger scale, was tried in a part of the State where the smut of oats has been very destructive.

The trial was conducted on the farm of Chas. Baker, Noble County.

The last week in April three acres of oats were sown in three plots, the seed being treated respectively 40, 60 and 90 minutes in a solution of one part of commercial formalin to 200 parts of water. The seed was scattered broadcast without drying. Alongside of these areas was sown a field of untreated seeds. All of the seed used was from a previous crop of smutty oats that was very much infested.

No difference was noted in the time of germination of the several lots, but the treated seeds produced plants that were more uniform and better developed than those from the untreated ones.

At the time of cutting the difference between the two fields was very striking. Fully 15 per cent. of the heads of the untreated seeds were smutty, while not one stalk of the plants from the treated seeds showed any signs of smut. The whole experiment was conducted by the owner of the place from directions and material furnished by the department and the results were examined by one of our students. Of the three separate lots of treated seeds the ones soaked for 60 minutes seemed to be the best, and that time is recommended as safe and efficient for treatment. Comment on this experiment is unnecessary, and it is hoped that these facts may increase the use of this fungicide to the improvement of our production of oats.

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## THE FLORA OF LAKE MAXINKUCKEE.

BY J. T. SCOVELL.

Lake Maxinkuckee is situated in Marshall County, Indiana. It occupies parts of sections 15, 16, 21, 22, 27, 28 and 34 of Township 32 north of Range 1 east of the second principal meridian. The lake is a little more than two and one-half miles long from north to south and about