

PROPAGATION OF TRUE SOLOMON SEAL

by

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for

Outdoor Science
Miss Fuller

Summary of Propagation

*This would be improved
further by
salination*

The seeds that I planted October tenth in a flat containing a mixture of sand and dirt, failed to germinate except for three of them. The three that did germinate died after a month. Of the seeds that I placed in a petri dish containing peat moss, sixty per cent germinated. Eighty per cent of the seeds germinated that I placed in a petri dish containing an absorbant blotter due to the lack of fungus growth on the seeds. The seeds in the flat that I planted October the twenty-fourth, had been refrigerated for one month and were placed in a mixture of equal parts of soil and peat moss. None of the seeds germinated, which could have been caused by overwatering. The seeds that I soaked in hydrochloric acid for five minutes and planted in a pot containing one-half soil, one fourth peat moss, and one fourth sand, failed to germinate. The seeds I soaked ten minutes in hydrochloric acid and planted in the same type of soil, had a germination percentage of eighty. The seeds I soaked fifteen minutes in hydrochloric acid and planted in the same soil mixture, had a germination percentage of 10 per cent. The seeds that I mechanically broke the seed coat on, failed to germinate.

The rhizomes I planted October tenth, produced root hairs and new adventitious buds. They were planted four inches deep in pots containing a mixture of one-fourth peat moss, one fourth sand and one-half soil. On October the twenty-fourth I planted twenty rhizomes that had been refrigerated one month and got the same results. I also planted rhizomes that had been frozen two weeks and got the same results.

The flat of solomon seal berries that I planted showed no results after three months.

Conclusion

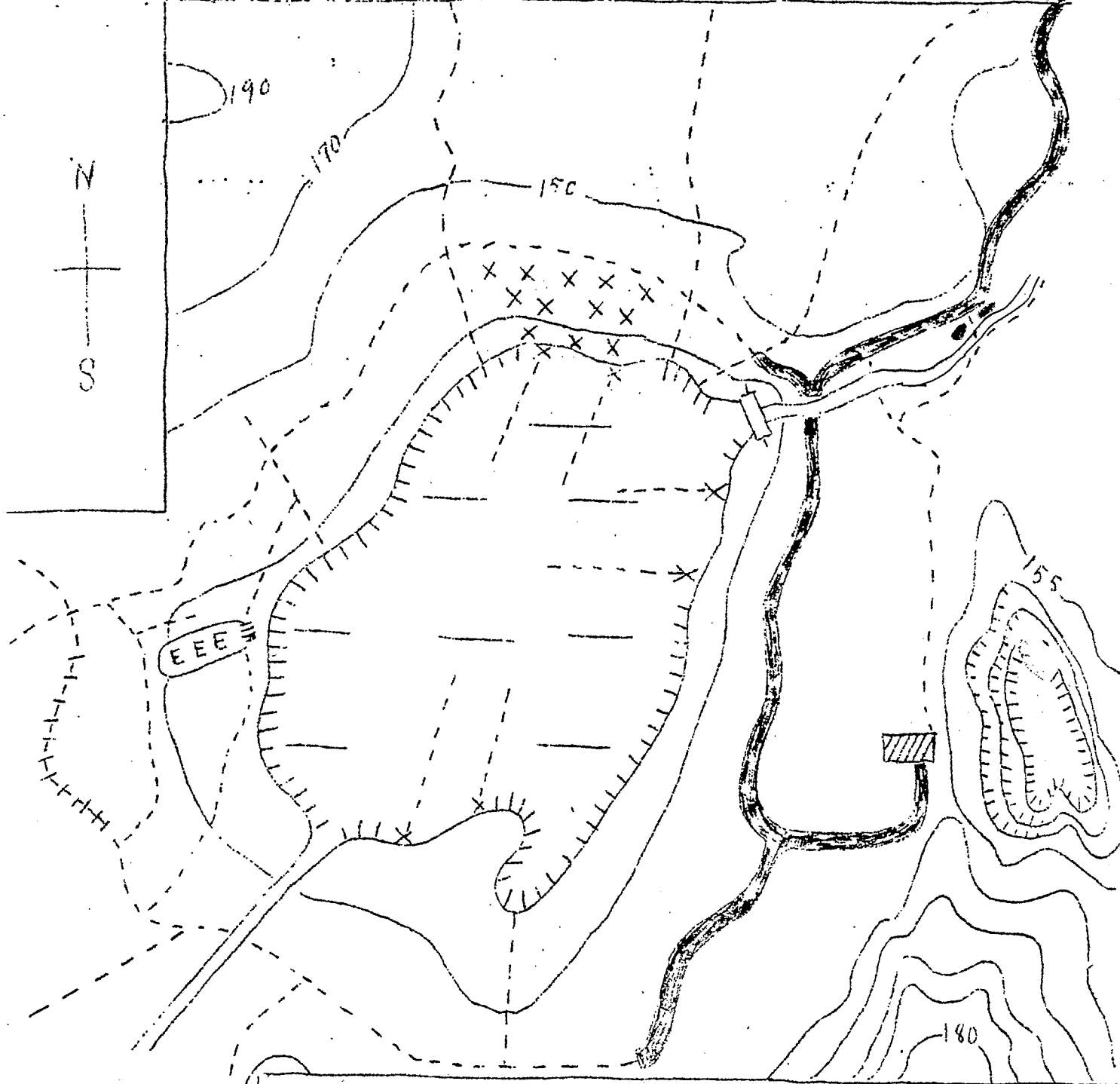
After trying to propagate true solomon seal by both seeds and rhizomes, I have reached the conclusion that propagation is much easier by rhizome. I planted twenty-five rhizomes in Kleinstuck and I'm sure that these will grow into nice plants this coming spring and establish a permanent colony of true solomon seal in that spot. The rhizomes that I planted in the green house will eventually produce aerial stems and leaves from the new buds they have formed. Since they have root hairs and new roots, I presume that they are absorbing water and carrying on metabolism at a higher rate than if they were dormant. The problem in propagating the plant from the rhizome is the time factor. It has taken these rhizomes three months to produce new roots and buds. I think this is due to the fact that winter is normally the resting period for the plant and therefore it is slow to respond to an increase in temperature and moisture. Also the green house was too cold for the first month to really stimulate the rhizomes into producing new growth.

The major problem encountered in propagation by seeds is the tough leathery seed coat which is water-resistant. For good results it is necessary to remove this seed coat at least partially. I found that soaking the seeds in hydrochloric acid for ten minutes gave the best results, eighty per cent germination, which is a very high percentage for wild flower seeds. I discovered that soaking the seeds in hydrochloric acid for a shorter period.

gave no results because not enough of the seed coat was removed to allow water to penetrate for germination. When the seeds were soaked for fifteen minutes in hydrochloric acid, only ten per cent of the seeds germinated because the acid ate through the seed coat and injured the embryo in most cases. Planting the seeds in the soil without breaking the seed coat is useless according to my experiments. The only seeds with their seed coats intact that I had any luck with were planted in petri dishes. I had fifty per cent of the seeds I planted in a petri dish containing peat moss germinate. The problem here was fungus growth on the seeds. In a petri dish containing an absorbant blotter, I had eighty per cent of the seeds germinate. Therefore I would recommend planting the seeds in a petri dish containing an absorbant blotter pad or planting seeds that had been soaked in hydrochloric acid for ten minutes in soil consisting of one-fourth peat moss, one-fourth sand, and one-half soil.

COPIED FROM TOPOGRAPHY MAP OF KLEINSTUCK RESERVE
 CITY DATUM 696,298 ABOVE SEA LEVEL

ENTRANCE



- ROADS
- BRIDGE
- CEMENT PLATFORM
- X---X VISTA TO WATER 20' WIDE
- PATHS AND FIRELANES
- CHANNELS
- CORDUROY ROAD
- Thirty Solomon Seal Rhizomes Planted October Twenty-third (marked with red stake)
- Five-hundred Solomon Seal Seeds Planted November Tenth (marked with blue stake)

Fall of 62 - Eugene Demick