

NATURE'S METHOD OF RE-SEEDING TO WHITE AND RED PINE.

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The discussion on "Conifers" at the meeting of the Botanical Branch of the Ottawa Field-Naturalists' Club, as published in the February number of *THE NATURALIST*, was very interesting. For many years I have observed the methods of Nature in the work of re-forestation, and in a few words shall give you the results.

White and Red Pine do not spring up immediately after a fire. Other plants, such as the birches, maples, poplars, willows, cherry (*Prunus pennsylvanica*), shrubbery of various kinds, trailing plants, grasses, mosses, liverworts, etc., soon take possession of the fire-swept area, to be followed in a few years by the Conifers, including the pines. The Northern or Scrub Pine (*Pinus Banksiana*) is, to a certain extent, an exception; for in some districts, especially "barrens" more or less sodden in spring and early summer, it follows almost on the heels of a fire, and its foliage is generally, on such a soil, yellowish, as remarked by Mr. Hamilton in the discussion,—a character I have failed to notice in the case of the White and Red Pine.

How are burnt areas re-seeded to the latter? Under ordinary forest conditions, Prof. Macoun is, I believe, quite right in ascribing to seed-bearing cones, buried by squirrels and other animals, a share in the work; but the re-seeding of burnt districts can hardly be thus explained; for, the surface mould and soil being swept off, the seeds of buried cones brought near the surface would be apt to germinate under the influence of light and heat, and re-seeding on the heels of the fire would be expected. Such, according to my observation, does not happen. It would seem as if the White and Red Pine are not alkali-loving plants, and their seeds do not germinate and thrive in a soil impregnated with the soluble constituents of ashes, but require much vegetable mould and half decomposed wood—a fact observed by Messrs. W. T. Macoun and Elwes in the traverse from Kingsmere to the Gatineau. This view seems further strengthened by the fact that the first young White and Red Pines appearing on a burnt district are