of ergot into cocks cannot be considered a quantitative method for testing ergot. Oncometric studies of the cock's comb during acute ergot poisoning are now being made.

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An experimental study of poison oak.

By EDWARD VON ADELUNG.

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Experiments show that the toxic principle of *Rhus diversiloba* while not volatile can poison at a distance by means of mechanical carriers. It is not destroyed by subjection for one hour to 100° C. and is carried, potent, by the smoke from burning *Rhus* plants. The dermatitis produced by this plant is a purely local affection and is not spread by the blood or lymph or by the serum of the blebs. The reaction of the sweat has no relation to individual susceptibility.

Absolute immunity in man has been claimed but was not found to exist, on repeated attempts, in any of the individuals tried (6 persons). In spite of the work of Ford, the conclusion is arrived at that experimental immunity in animals to *Rhus* toxin has not been proved. The author, working with pure toxin (glucoside) produced by the method of Syme, was unable to intoxicate animals with any reasonable amount. Ford's work was done with a commercial fluid extract containing various impurities. A permanent aqueous suspension of the alcoholic solution of the pure toxin can be prepared, and remains toxic for the human skin. As much as 0.025 gm. of this preparation of toxin can be given intravenously to a 2,000-gram rabbit without fatal effect, and as much as 0.03875 gm. can be given to a 280-gm. guinea pig subcutaneously without fatal effect. Pure alcoholic extract when given subcutaneously produces severe necrosis and death owing to the alcohol itself used as a menstruum, but with no lesions attributable to the toxin. No skin lesions were produced in monkeys, rabbits, or guinea pigs as a rule, but a slight dermatitis was produced on the rabbit's ear at times.

Inasmuch as animals can not be killed by the pure toxin, it is impossible to demonstrate antitoxic effect in the serum of animals that have received repeated doses of the toxin. The Bordet-Gengou fixation reaction failed to demonstrate the presence of antibodies in the sera of animals so treated.

The simplest prophylactic measure against *Rhus* poisoning is to wash well with soap and hot water as soon after exposure as possible. The protection of the skin by anointing with cotton-seed oil before exposure and washing this off within a few hours with soap and water, renders prophylaxis fairly certain. The following remedies have therapeutic value: hot water, ichthyol collodion, permanganate of potassium, magnesium sulfate, and tincture of iodine.

45 (741)

The failure of union between antigen and precipitin when present in the same serum.

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It has been frequently observed that the serum of rabbits, immunized with foreign protein, may, at certain times, contain not only precipitin, but also unaltered antigen remnants. Such sera not only precipitate the antigen, but also give precipitates when mixed with other antisera prepared with the same antigen (Linosier et Lemoine, Eisenberg, Michaelis, and Fleischmann, Ascoli, Von Dungern). They have been recently studied by Gay and Rusk. It has been difficult to explain why such sera do not spontaneously precipitate since both reacting factors are present.

In the cases of two sera recently studied by us the phenomena observed were as follows: Sera "3" and "4," obtained by injecting two rabbits with horse serum on three successive days and bleeding eight days after the last injection, were perfectly clear and showed no spontaneous precipitation on standing several days. Serum "3" precipitated horse serum in dilutions of 1 to 1,000, and serum "4" in dilutions of 1 to 500. When mixed with equal quantities of an antihorse serum precipitin, which contained no antigen, both sera were precipitated, "3" more strongly than "4." Neither of