

dark borders to the leaflets, but otherwise closely related to it. Both are clearly distinct from *O. corniculata* and its variety *stricta*, although each of these in some localities produces rather large flowers resembling the long-styled form of a trimorphic species. A repent southern and Californian form, which I have called *O. corniculata*, var. (?) *macrantha*, appears as though it might prove to be trimorphic. I shall be greatly obliged for specimens and accurate measurements of the floral organs of this plant that may throw light on this point. WILLIAM TRELEASE.

St. Louis, Mo.

A walnut sport.

J. R. Johns, Millersburg, Pa., sends an abnormal walnut, the appearance of which, he thinks, is due to pollen of the hickory. Similar nuts have been found at about the time of the first frosts in the fall, for four successive years, at about the same spot under a black walnut tree—about a dozen specimens in all. The nearest hickory tree is about 800 yards distant. "That the nut is part hickory and part walnut," he says, "can not be doubted by any one seeing it in the first state. The lower or walnut part of some was more fully developed than in the specimen forwarded."

The nut is mature, of nearly the size of an average walnut, and has its lower third seated in an adherent, two-lobed, cup-like body, in texture much like the outside of a walnut. The "shuck" of the upper part is thinner and smoother than usual, and still shows the four parts of the adherent calyx as when young, thus causing it to resemble a hickorynut. On cutting it open the shell and kernel were found to be those of the walnut. The lower adherent portion is possibly the persistent bract.

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Preventing fertilization.

Dr. Halsted, in a recent bulletin of the Iowa Agricultural College, gives the result of some experiments on excluding pollen from squash and cucumber flowers. They were undertaken to demonstrate to his students the necessity of the pollen for the development of the fruit. The pollen was excluded by covering the female flowers with cloth sacks.

I have found other ways of excluding the pollen to answer the purpose. Five female cucumber flowers nearly in blossom, on plants growing in dry sandy soil, were each covered with paper and then each with a hoe full of earth, the places being marked by stakes. In eight days one was dead, three were yellow and one still green. All finally died after making a small amount of growth. Some other young cucumbers, covered just after the blossoms had withered, all developed. The temporary covering of dry sandy soil did not seem to affect their growth, and the paper was not considered essential.

Another method was tried with some muskmelons. Five pistillate flowers nearly in blossom were clipped off with scissors just at the top of the ovary. Five others on which the flowers had faded, and which were presumed to be fertilized, were clipped in a similar manner to determine whether any failure of the first set to grow might be due to injury by the cutting. All the first set died, the young fruits growing less and dying sooner than in the case of the cucumbers. All those clipped after the blossoms had withered fully matured, except one which the chickens got at.

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