

## NOTES.

*Mineral Residues in Sprayed Fruit.*—Dr. R. C. Kedzie, of the Michigan Experiment Station, has examined fruit sprayed with two insecticide mixtures containing copper and arsenic. Strawberries sprayed excessively June 18 and 23 and picked June 24 contained, per pound of fruit, arsenic 0.044 grains, and copper 4.87 grains. Gooseberries sprayed June 18 and 29, July 8 and 22, picked August 2, were washed with hydrochloric acid (ten per cent.) and the washed fruit contained per pound 0.0047 grains arsenic and 0.138 copper. “In these experiments extending through two years, the minerals used in spraying the fruits were found in appreciable quantities in every instance though the amount was small in all cases except where the spraying had been purposely excessive. \* \* \* The use of poisons in horticulture in my opinion is largely in excess of the amount required for a fungicide. One-half or even one-third of the amount usually employed would probably give as good results. \* \* It is safe to refuse all fruits which have been sprayed with these poisons (especially arsenic) during the period of ripening.”

It was found that a small part of the poison sprayed upon the surface of the fruit was absorbed into its substance.—*Bulletin, 101, Michigan Agricultural Exp't. Station, 19.*

*Estimation of Chlorine in Water.*—When the standard silver nitrate solution is employed, with potassium chromate as an indicator, it is often very difficult to decide just when the red color begins to appear, even with the comparison dish of water tinted with the chromate at hand as an aid to the eye. One sufficient reason therefor is that it is hard to compare a clear yellow liquid with one turbid from precipitation of silver chloride.

Following a suggestion of my assistant, Mr. V. H. Gridley, it is now my practice to roughly determine the chlorine present, and then to make a second determination using for comparison 100 cc. of distilled water to which has been added not only the chromate indicator, but also an appropriate amount of standard sodium chloride solution and an amount of silver nitrate solu-