

much upon the readiness with which it is assimilated in the process of digestion and scientific authorities agree that whatever prevents decomposition delays digestion. There are legitimate methods of preservation which do not involve the use of noxious drugs and the department will prosecute dealers in milk found using these deleterious mixtures."

### HYDROCYANIC ACID AS AN INSECTICIDE—A WARNING.

TO THE EDITOR OF AMERICAN GARDENING:

I have been interested in reading Dr. Fisher's communication in the last issue of American Gardening on the subject of hydrocyanic acid gas as an insecticide; but think a more serious word of warning should be uttered to your readers in regard to its use than was given in your editorial.

At Willowmead Gardens, we have made probably the most thorough experimentation with this gas, as well as with other insect poisons that have been in glass structures, the commercial necessity of overcoming various forms of insect pests injurious to the contents of our orchid houses being the incentive of the elaborate experimentation. It is true that hydrocyanic acid gas will kill every form of life, animal as well as vegetable, if it is used of sufficient strength and for a long enough time; but there are some insect forms that will not succumb to it unless a sufficiently strong solution of gas is used to have a caustic effect on plants of various kinds. This effect does not at once show itself.

One trouble of the long immersion of plants in even a dilute solution of the gas is that too much is absorbed by the plants and more or less injury to the plants is effected. Plants show remarkably different susceptibilities to its effects; some of the apparently toughest plants being most susceptible. Furthermore, the gas sometimes "banks" up in certain parts of the house.

But outside of this, the use of the gas as prepared by this process is too frightfully dangerous to warrant it being

handled by any but the most skilled hands. Even with an exceptionable degree of knowledge of general chemistry, and with a special knowledge of the physiological action of poisons, and using the utmost possible personal care in my methods, I have had several narrow escapes in my experimenting. In inexpert hands, the danger is vastly increased. A little of the dust from the cyanide powder, if inhaled direct in using it, or if it get on the hands or clothing, may result seriously. A moderate whiff of the gas if incautiously inhaled stuns one like as if it were a severe blow in the face by a club. Amounts of the gas dangerous to breathe may be inhaled without directly noticeable effect to dull, or even ordinary, perception, the first perceptible effect being a dizziness in the head followed by a slight peach-pit like flavor at the back of the nose and mouth in the upper pharynx. So very diffusive is the gas that one long breath of a very dilute solution may thus be perceived at the back of the mouth fifteen hours after inhalation. I have been made very dizzy by a quick walk of 25 feet to the ventilating apparatus in a house at 9 A. M. in which the gas had been generated at 5 o'clock the previous afternoon. One is liable to be burned by the handling of the sulphuric acid alone, as well as suffer danger to clothing, adjacent plants and structures, during the generation of the gas, or the subsequent clearing up after the process. The whole method is dangerous, inconvenient and entirely too costly for general use.

Formalin gas is safer and as effective both as an insecticide and as a disinfectant. It, too, is caustic in its effects on plants; but is a splendid disinfectant for empty houses, and can be used without danger for that purpose. It may be of interest for your readers to know that as a result of our experimentation at Willowmead Gardens, we have produced an insecticidal agent that apparently is as effective as hydrocyanic acid gas in destroying all insect life, that can be used without danger; and so far as we have gone seems to be non-injurious to plants. Its cost is, however, as great as that of hydrocyanic acid gas. Further ex-

perimentation is now going on that promises to result favorably in producing an agency for insecticidal purposes that will be inexpensive as well as effective, convenient and safe.

J. M. W. KITCHEN, M. D.

East Orange, N. J.

### CONVENTION OF HORTICULTURISTS.

The convention season is at hand, and a few words on the subject will not be out of place. To those that attend the manner of conducting such conventions is of prime importance. When people go a long distance to attend such assemblies they usually do it for the purpose of learning new things and better methods. This fact should be constantly in the minds of the officers. It too often occurs that a very large part of the time is taken up with routine work and in discussions that are not instructive. We have seen some unimportant amendment to the constitution consume the entire time of a session; we have seen a "fight" over officers take up another session; we have seen the vindication of some officer become the principal topic in another session. We have attended conventions that were very profitable by reason of good papers and good discussions on horticultural subjects. We have attended other conventions that appeared more of a farce than anything else. From such conventions we have gone away painfully impressed with the idea that the people that had been to the expense of coming from a distance would probably not do so again. The presiding officer holds the situation largely in his hands. If he be inert the work of the convention will lag, and foreign topics will be allowed to consume the precious hours. If he be energetic and understand his business, the speakers and those engaged in the discussions will be held to the topics before the convention, and much will be accomplished. Every presiding officer would do well to study up on parliamentary law.

—Farmers' Review.