In 1943, the author (5) pointed out that nitrates in the food of animals may be reduced by bacteria to nitrites and that these are likely to cause poisoning through combination with the hemoglobin of the blood. The object of this paper is to present data demonstrating that nitrates often are present in many vegetable foods and in concentrations sufficient to cause poisoning, particularly with infants. In this respect they seem to parallel carbon monoxide and hydrocyanic acid.

A few papers dealing with the presence of nitrate in various crops, including vegetables, are available. Some of the pertinent ones were reviewed by Wilson (5) in his paper dealing with nitrate in plants and its indirect toxicity to animals. The nitrate content of such foods as beets, broccoli, cabbage, carrots, celery, and the fruits of cucumber and watermelon was included in his study.

Following his work, Gilbert, et al. (2) made analyses of many plants for their content of nitrate and re-emphasized the effect of this material on human health, pointing out, as did Wilson (5), that the eating of sufficient food of this type in lethal amounts is not probable with adults. They state that the ingestion of a vegetable dinner using foods containing as much nitrate as was found by them could be considered somewhat hazardous. Recently, Weart (4), working as a sanitary engineer in Illinois, drew attention to a new disease called infant methemoglobinemia which was said to result from a local market, as well as that of certain "quick frozen foods" for sale at Ithaca, N. Y. in May 1948. It can be seen that only tomatoes contained no nitrate and that 7 of the 14 vegetables contained at least 1,000 ppm in the juice. Cabbage, and cauliflower were found to contain 1,000 ppm or more in their juice, and rhubarb contained as much as 5,454 ppm.

The nitrate content of green vegetables purchased from a local market, as well as that of certain "quick frozen foods", is given in Table 2. It is an indication of what may happen. In Table 1, given the nitrate content of green vegetables grown at Ithaca, N. Y. It can be seen that only beets contained no nitrate and that 7 of the vegetables contained at least 1,000 ppm in the juice. Cabbage, and cauliflower were found to contain 1,000 ppm or more in their juice, and rhubarb contained as much as 5,454 ppm.

The nitrate content of green vegetables purchased from a local market, as well as that of certain "quick frozen foods", is given in Table 2. It is an indication of what may happen. In Table 1, given the nitrate content of green vegetables grown at Ithaca, N. Y. It can be seen that only beets contained no nitrate and that 7 of the vegetables contained at least 1,000 ppm in the juice. Cabbage, and cauliflower were found to contain 1,000 ppm or more in their juice, and rhubarb contained as much as 5,454 ppm.

The variations in nitrate content of certain vegetables can be seen also from the data listed in Table 1. The nitrate content of green vegetables varies considerably, going as high as 3,636 ppm for quick frozen spinach. This sample of spinach contained only 15.4% dry material so that if the nitrate present was expressed as potassium nitrate it would be calculated as percentage of the total solids equal to 3.84%, or to 3.24% as potassium硝.