cherry (1), sweet cherry (3), peach (2), plum (3) and seedlings of Myrobalan plum (1), Mahaleb cherry (1) and peach (1), clearly indicate that the typical strain 1 of cherry yellows virus[2] which induces rosette and stunting of peach seedlings produces symptoms simulating prune dwarf[3] on Italian prune and Lombard plum. Also one strain of sweet cherry chlorotic spot virus invariably induces typical prune dwarf symptoms on Italian prune and Lombard plum. Chlorosis and stunting of Damson plum results from the cherry yellows strain but not from either the typical prune dwarf strain—obtained originally from masked Damson plum—or from the sweet cherry strain obtained from the Yellow Spanish variety.

On the basis of severity of symptoms on Italian prune the strains from Damson plum, sweet cherry and sour cherry fall in descending order. The same order also applies for the severity of rosette, stunting and necrotic symptoms on Rochester peach.

Indexing strain 1 of sour cherry yellows and the above sweet cherry strain on Montmorency cherry regularly induced typical cherry yellows symptoms within one year. Thus it may be concluded that three strains of prune dwarf virus exist identified with plum, sweet cherry and sour cherry. Detailed results will be published elsewhere.

E. M. HILDEBRAND
NEW YORK STATE COLLEGE OF AGRICULTURE

ENZYMES IN DEHYDRATED VEGETABLES

ADEQUACY of blanching (scalding) of vegetables before dehydration is usually judged by absence or presence of positive peroxidase reaction in the dried products, except for cabbage in which catalase is used as the indicator.

In 1942, it was observed in tests for peroxidase made upon unblanched (raw) dehydrated cabbage, asparagus, carrots, peas, string beans, spinach and squash stored for six months at 30° C. and tested for peroxidase with dilute H_2O_2 plus dilute guaiacol or dilute benzidine, were devoid of positive peroxidase reaction. Dried raw potatoes, similarly stored, showed a faint positive peroxidase reaction.

A number of experiments have been made in the past two years in which various vegetables were dehydrated raw, and also after blanching five minutes at about 65.5° C. (150° F.), about 71° C. (160° F.), about 77° C. (170° F.), about 82° C. (180° F.) about 88° C. (190° F.), about 93° C. (200°F.) and 100° C. (212° F.). In one experiment, cabbage, potatoes, carrots, asparagus, string beans and squash so treated were stored one year and then tested. Of these only potatoes blanched at 65.5° C. showed any peroxidase activity, faint even in this case. All other samples were negative in reaction for peroxidase.

In other experiments, lightly blanched carrots and string beans (63° C. and 77° C.) became negative in peroxidase reaction in storage at 35° C. in less than 30 days; and peas in less than 90 days. Squash and potatoes showed slightly positive reactions even after 120 days' storage, but squash became negative by the end of ten months' storage. Dried potatoes, in another test, blanched at 77° C. (170° F.) and stored 18 months at 30° C. showed moderately positive peroxidase reaction. In this case and all other cases, however, the positive reaction in potatoes decreased markedly during storage.

Peas, blanched even at 100° C., showed positive "catalase" reaction (evolution of gas with dilute H_2O_2) after drying and during storage. This observation was confirmed by several individual experiments made on peas gathered at various seasons. The positive catalase reaction in other dried vegetables blanched below the death temperature of catalase decreased in intensity on storage and in some cases disappeared. Perhaps the reaction for peas is not that of a true catalase, but is due to some other catalyst.

The principal conclusion is that the positive peroxidase reaction in most inadequately blanched dehydrated vegetables rapidly decreases and finally disappears on storage; and decreases markedly in potatoes.

W. V. CRUESS
FOOD TECHNOLOGY DIVISION,
UNIVERSITY OF CALIFORNIA,
COLLEGE OF AGRICULTURE,
BERKELEY, CALIF.

Acknowledgment: Most of the experiments reported in this note were made possible by funds provided by the Office of the Quartermaster General of the U. S. Army. Some of the experiments were made by Mildred Smith, formerly of this division.

STARS IN AMERICAN MEN OF SCIENCE

IN the June 30 issue of SCIENCE, you published a letter from Mr. Stephen S. Visher, of Indiana University, concerning starred individuals in "American Men of Science." This has been of interest to me for many years. Outstanding individuals in specialized fields are not necessarily known to men in the main branches of science and are, therefore, apt to be overlooked when individuals are starred. For this reason, I favor the suggestion which was made to have a greater number of subdivisions and ask for the starring of a proportionate number of men under each subdivision. There might be a subdivision assigned to "Ceramics and Glass."

ALEXANDER SILVERMAN
THE UNIVERSITY OF PITTSBURGH

[2] E. M. Hildebrand, *Phytopath.*, 32: 712–719, 1942.
[3] E. M. Hildebrand, *Phytopath.*, 32: 741–751, 1942.