RESEARCH

“A METHOD FOR TESTING CUCUMBER SALT-STOCK BRINE FOR SOFTENING ACTIVITY”

by Thomas A. Bell and John L. Etchells, Food Fermentation Laboratory, Raleigh, N. C.

and

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This publication gives step-by-step directions for testing commercial cucumber brines for the softening type spoilage caused by a pectinolytic and cellulolytic (C.) agents (enzymes). These instructions are directed to workers in quality control laboratories of food plants and the results of the tests should give an early forecast as to possible salt-stock spoilage caused by softening. The tests may also be applied to genuine hills and overnight hills.

“NOTICE TO CUCUMBER PROCESSORS AND SEEDSMEN REGARDING RELEASE OF HYBRID SPARTAN CHAMPION”

by C. E. Peterson, Department of Horticulture, Michigan Agricultural Experiment Station, East Lansing, Mich.

“The Michigan Agricultural Experiment Station announces the release of a new hybrid pickling cucumber variety SPARTAN CHAMPION and pedigreed MSU 713-5 x MSU 238. The monoecious pollen parent, MSU 238 was increased under contract with several seedsmen in 1960. Production of experimental quantities of the hybrid MSU 7 x Spartan 27 was authorized.

“Spartan Reserve produces a black-spined, prominently scabbed fruit, light green in color with an L/W ratio of approximately 2.8. It is tolerant to cucumber mosaic and scab. In trials over the past three years, it has produced significantly higher yields than Wisconsin SMR 15 and SMR 18. Yields have averaged lower than Spartan Dawn but higher than few others. It produces more fruits per plant than the regular monoecious varieties and fewer than Spartan Dawn. In brine stock evaluations Spartan Reserve has been rated better than Spartan Dawn, mainly because of the lower percentage of nubs. Spartan Reserve is recommended for commercial trial in areas where mosaic and scab are serious. It should be tested in areas where growers have not been able to produce satisfactory quality with Spartan Dawn or other gynoecious hybrids. The Michigan Agricultural Experiment Station does not have seed for sale but will attempt to supply small samples for trial. A limited supply of seed for 1964 trials may be secured from commercial seed producers.”

“NOTICES TO CUCUMBER PROCESSORS AND SEEDSMEN REGARDING RELEASE OF HYBRID SPARTAN RESERVE”

by C. E. Peterson, Department of Horticulture, Michigan Agricultural Experiment Station, East Lansing, Mich.

“The Michigan Agricultural Experiment Station announces release of F, hybrid pickling cucumber SPAR TANE RESERVE, pedigreed MSU 7 x Spartan 27. The inbred seed parent, MSU 7, was increased under contract with several seedsmen in 1960. Production of experimental quantities of the hybrid MSU 7 x Spartan 27 was authorized.

“Spartan Reserve produces a black-spined, prominently scabbed fruit, light green in color with an L/W ratio of approximately 2.8. It is tolerant to cucumber mosaic and scab. In trials over the past three years, it has produced significantly higher yields than Wisconsin SMR 15 and SMR 18. Yields have averaged lower than Spartan Dawn but higher than few others. It produces more fruits per plant than the regular monoecious varieties and fewer than Spartan Dawn. In brine stock evaluations Spartan Reserve has been rated better than Spartan Dawn, mainly because of the lower percentage of nubs. Spartan Reserve is recommended for commercial trial in areas where mosaic and scab are serious. It should be tested in areas where growers have not been able to produce satisfactory quality with Spartan Dawn or other gynoecious hybrids. The Michigan Agricultural Experiment Station does not have seed for sale but will attempt to supply small samples for trial. A limited supply of seed for 1964 trials may be secured from commercial seed producers.”

“CUCUMBER BREEDING STUDIES IN ARKANSAS”

by J. L. Bowers and C. M. Bittle, Arkansas Agricultural Experiment Station, J. L. Etchells, U. S. Food Fermentation Laboratory, Southern Utilization Research and Development Division, U.S.D.A., New Orleans, La.

The cucumber investigations in Arkansas involve two different phases of work: (1) the actual breeding program which is carried out at Fayetteville and has as its ultimate objective the development of varieties to be grown for the breeding lines on the basis of their salt stock qualities. The cucumber program at Fayetteville covers work on breeding lines classified as: polyplod, male sterile, tetraploid, gynoecious types, dwarf types and disease resistant.

Tetraploid plants have been obtained by treating the seed of a gynoecious line with colchicine. The ultimate goal in this phase of the program is to use the tetraploid female plants in developing triploid hybrids. Low fertility (poor seed set) must be overcome in order to obtain the objective. The male sterile lines in our program also carry a high degree of female sterility which has not been overcome. The behavior of the male sterile plants in the field has given us a lead as to what would be desirable in triploid hybrids. Types of the male sterile plants set and developed around 20 fruit per plant, ranging in size from No. 4’s down to small No. 1’s. When this fruit was cut longitudinally no seed development was observed. This leads us to believe that a

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