

HORTICULTURE

SWEET POTATOES

Listed below are the experiments that were conducted with sweet potatoes in 1932:

1. Variety Trials.
2. Planting Dates.
3. Spacing Test (row widths).
4. Spacing Test (drill).
5. Fertilizer Formula Test.
6. Concentrated Fertilizer Test.
7. Rates of Applying Fertilizer.
8. Sources of Ammonia.
9. Sources of Potash.
10. Influence of Light and Heavy Applications of Fertilizer on Early Maturity.
11. Miscellaneous Plant Nutrients.
12. Methods of Cultivation.
13. The Effect of Vine Pruning on Sweet Potato Yields.
14. The Influence of Vine Parts on Sweet Potato Yields.

Only a brief discussion of the work in progress with sweet potatoes will be given in this report. Detailed information resulting from a ten-year study of this crop may be obtained without cost by requesting bulletin No. 17, *Sweet Potato Culture in the Coastal Plain of Georgia*.

SWEET POTATO—VARIETY TEST: Big Stem Jersey and Porto Rico are the leading commercial varieties for early market. The Big Stem Jersey is a dry, mealy potato and should be grown exclusively for northern markets. Porto Rico, a yam type potato, should be grown primarily for southern consumption, although it finds a limited market in the North. The Porto Rico also is the most desirable variety for the late crop and when properly handled, is suitable as a storage product.

SWEET POTATO—PLANTING DATES: March 15 seems to be the earliest date on which sweet potatoes may safely be planted in the central coastal plain area of Georgia. The early crop should be planted

between March 15 and April 1. Later plantings show such decided decreases in yield that they often result in loss to the grower. The minimum growing period for profitable yields from the early crop is 115 to 120 days. Also it has been found that maximum yields of marketable potatoes from the late crop may be expected in 185 to 200 days. Therefore potatoes for the late harvest should be planted not later than May 1 if highest yields are to be expected.

SWEET POTATO—SPACING TESTS: Tests in which sweet potatoes are spaced at varying intervals in the drill and in rows of varying widths show the most profitable returns resulting from potatoes planted 8 to 12 inches in the drill and in rows three feet apart.

SWEET POTATO—FERTILIZER FORMULA TEST: The data resulting from this test indicate that a mixture containing 8 per cent phosphoric acid, 4 per cent ammonia and 8 to 10 per cent potash is best suited to the production of sweet potatoes for the soil and climatic conditions under which this work was conducted.

SWEET POTATO—CONCENTRATED FERTILIZERS: Fertilizers of high concentration seem to be less desirable than standard mixtures or mixtures of medium concentration.

SWEET POTATO—RATES OF APPLYING FERTILIZER: Increases in yield are obtained from rates of application of fertilizer ranging as high as 1600 pounds per acre, although it is believed that the application of 600 to 800 pounds for the late crop is a more conservative farm practice.

SWEET POTATO—SOURCES OF AMMONIA: Fertilizers in which half the ammonia is derived from nitrate of soda and half from cotton seed meal continue to show the most profitable yield of marketable potatoes.

SWEET POTATO—SOURCES OF POTASH: In the test with sources of potash kainit is maintaining its lead in the production of marketable potatoes.

SWEET POTATO—INFLUENCE OF LIGHT AND HEAVY APPLICATIONS OF FERTILIZER ON EARLY MATURITY: From the standpoint of producing potatoes for early market the highest yield of marketable Porto Ricos has resulted from an application of 700 pounds of fertilizer per acre, while the use of 900 pounds per acre is leading in the production of marketable Big Stem Jerseys.

SWEET POTATO—MISCELLANEOUS PLANT NUTRIENTS: Sweet potato yields have not been increased by supplementing commercial fertilizer with miscellaneous plant nutrients such as sulphur and bluestone.

SWEET POTATO—METHODS OF CULTIVATION: High beds seem to be more conducive to heavy yields of sweet potatoes than are medium to low beds. Light plowings at such intervals as will control weed growth seem to be all the cultivation necessary for the normal development of the sweet potato crop.

SWEET POTATO—EFFECT OF VINE PRUNING ON YIELD: Sweet potato yields are influenced in direct proportion to the amount of vines cut away.

SWEET POTATO—INFLUENCE OF VINE-PARTS ON YIELD: The tip and intermediate parts of sweet potato vines are slightly more desirable as a source of plants than are the more fibrous parts near the base.

TOMATOES

The following experiments are being conducted with tomatoes:

1. Variety Test.
2. Planting Dates.
3. Spacing Test.
4. Fertilizer Formula Test.
5. Rates of Applying Fertilizer.
6. Concentrated Fertilizer Formulas.
7. Miscellaneous Plant Nutrients.
8. Sources of Ammonia.
9. Sources of Potash.
10. Seedling Disease Control.

TOMATO—VARIETY TEST: The study of tomato varieties extending from 1922 to 1927, inclusive, showed New Stone to be the most productive and of first importance as a general purpose tomato, since it is a fair shipper, excellent for canning, and most desirable for home use as a fresh product. Livingston Globe and Cooper's Special are less productive but are more desirable for commercial purposes, being very firm and possessing excellent shipping qualities. Marglobe, a rather shy bearer, is excelled by none in quality and appearance and is among the leading shipping varieties.

The study of tomato varieties extending from 1928 to 1932, inclusive, is shown in Table XXXVIII. In this test Break O'Day is leading all commercial varieties in yield of marketable fruit and is a week to ten days earlier than such commercial varieties as Marglobe and Livingston Globe.

TABLE XXXVIII—TOMATO VARIETY TEST

Average Yield for Years 1928 to 1932 Inclusive

Fertilizer: 800 Pounds per Acre, 8% Phosphoric Acid, 4% Ammonia and 4% Potash

Average Date Planted: April 17

VARIETY	Yield in Pounds per Acre			Days Required to Mature	Days Bearing Period
	Market-able	Culls	Total		
1. Spark's Earliana†	7190	1783	8973	48	45
2. Louisiana Pink	6733	1605	8338	60	34
3. Break O'Day‡	7109	1134	8243	50	44
4. Clark's Early	6386	1589	7975	59	35
5. John Baer*	6268	1683	7951	54	37
6. Louisiana Red*	6409	1472	7881	53	37
7. Gulf States Market*	6122	1684	7806	56	34
8. Cooper's Special	5133	2416	7549	61	34
9. Bonnie Best	5927	1354	7281	58	34
10. Livingston Globe	5150	1735	6885	60	32
11. New Stone	4954	1651	6605	58	33
12. Winsall†	4754	1846	6600	55	38
13. New Extra Early Prolific‡	5110	1295	6405	58	30
14. Marglobe	4754	1432	6186	60	34
15. Norton*	4471	1462	5933	62	34
16. Greater Baltimore*	4252	1510	5762	59	33
17. Norduke†	3695	1377	5072	56	37

*Four-year average.

†Three-year average.

‡Two-year average.

Pritchard, a variety recently developed by the United States Department of Agriculture, has been included in the test only one year. This is generally considered a very desirable commercial variety al-

