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Four Essentials for a Good Tomato Crop: A Progress Report

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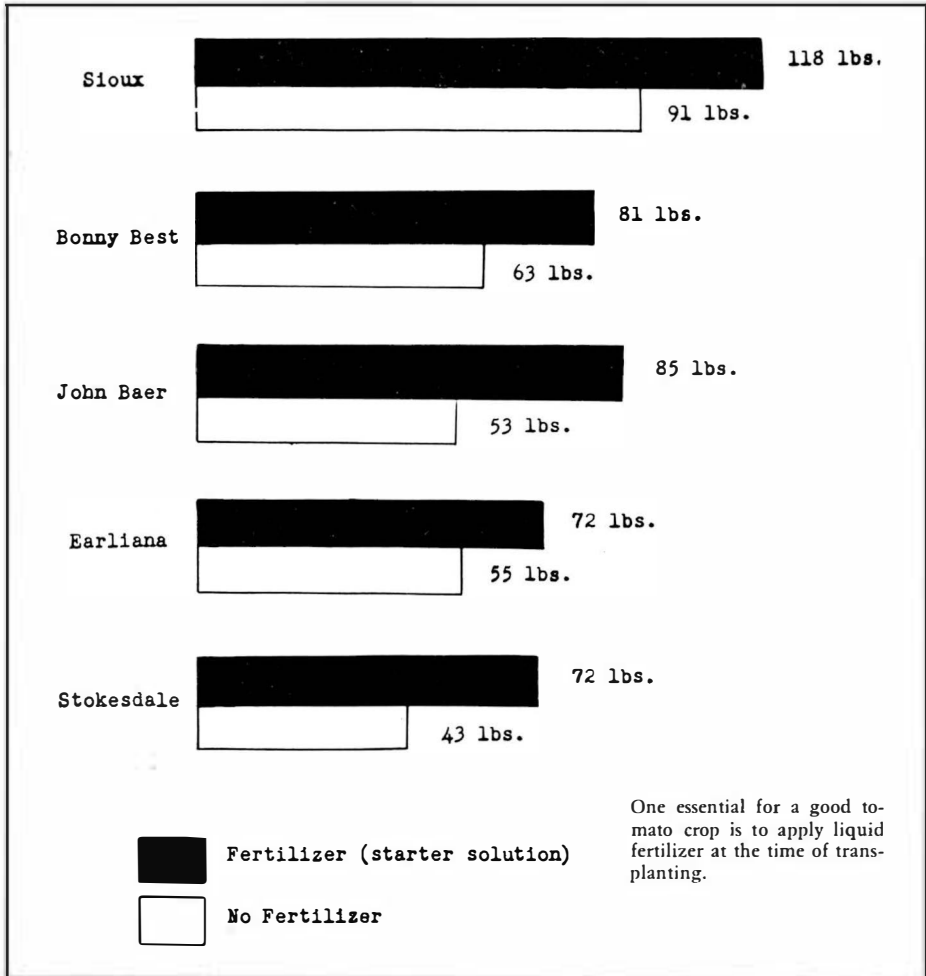
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Four Essentials for a Good Tomato Crop

A PROGRESS REPORT



Department of Horticulture

AGRICULTURAL EXPERIMENT STATION

South Dakota State College

Brookings, South Dakota

Four Essentials for a Good Tomato Crop

By S. A. McCrory¹

Important as the tomato is to our vegetable supply, the home gardener might well afford to consider some ways of increasing production. Information collected at the South Dakota Agricultural Experiment Station in recent years indicates that by attending to four simple details, any grower may reasonably expect to increase his supply of tomatoes. In most instances it is a conservative estimate to say that the yield can be more than doubled by following the program outlined here.

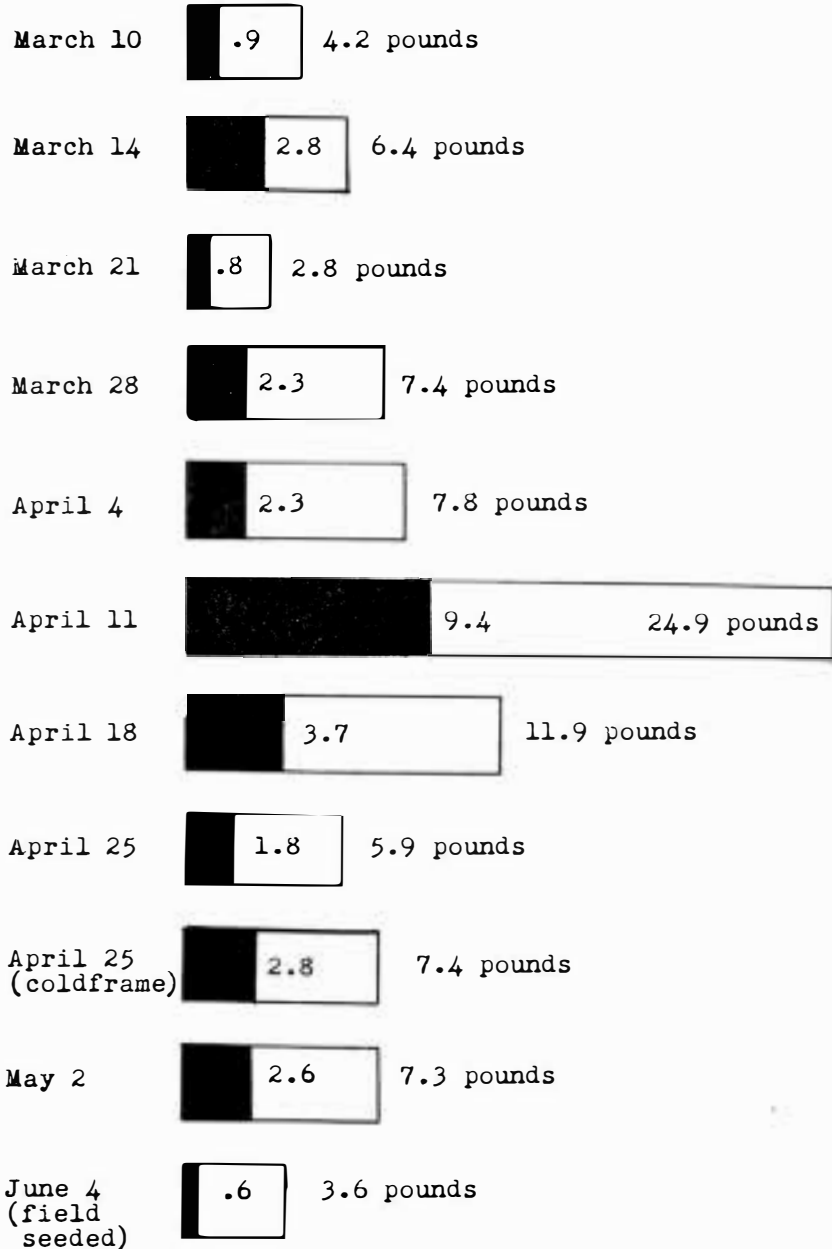
Choose a Good Variety That Is Well Adapted to the Area

Since 1942, most of the named varieties of tomatoes available to the home gardener have been planted in test plots under experimental conditions for the purpose of making comparisons. Since the rainfall has been abundant during these four years, leaf-injuring diseases have been a serious problem. These factors have perhaps ruled out some varieties. However, it is interesting to note that of the varieties tested, some four or five have been uniformly good. For the most part, Sioux, Stokesdale, Earliana and John Baer have given consistently high yields. The variety Bison, for example, has not produced more than half as much as these leading varieties. Only the 22 highest yielding varieties are listed in the table.

Tomato Variety Test—1942-1945

Variety	Yield per plant in ounces				Calculated rank
	1942	1943	1944	1945	
Sioux		108	98	86	1
Coventry			102	45	2
John Baer			85	54	2
Red Cloud		87	96	51	3
Stokesdale	225	75	90	47	4
Bonny Best	112		87	59	5
Asgrow Baltimore			59	46	6
Earliana	168	63	83	52	7
Dakota Red	119	88	85	49	8
Firesteel	158	62	111	39	9
Cardinal	202	113	67	40	10
Walner's Pink		46	89	32	11
Stemless Penred			51	17	12
Pritchard	194	35	94	43	12
Summerset	208	57	68	24	13
Bloomsdale	164	49	73	32	14
Valiant	157	48	69	43	15
Bounty	88	61	83	17	16
Pan Americana	88		58	14	16
Marglobe	171	43	49	29	17
Victor	102	42	77	18	18
Rutgers	159	37	62	17	19

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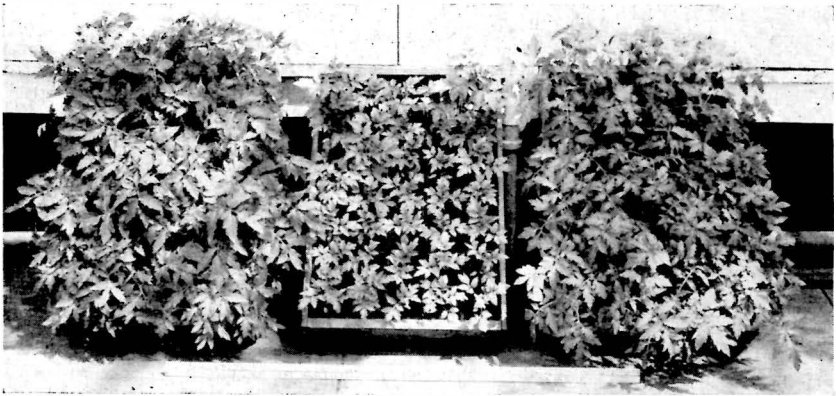
The age of transplants affects yields. The chart shows plants grown from seeds started at weekly intervals. Maximum yields were obtained from 6- to 8-week-old plants.

Use Plants That Are From Six to Eight Weeks Old

It is the general practice of growers to purchase plants when the danger of frost has passed, and to give little attention to the age of the transplant used. In experimental tests during 1943, plants started in early April and transplanted to the field in early June produced four times as much fruit as did those started in early March. (See page 3.) Plants from seed sown directly outdoors were low in yield. A glance at the chart shows how plants of different ages perform.

Use Properly Grown Plants

To produce vigorous, healthy plants, always use a fertile soil in the seedling bed. The accompanying photograph illustrates this well. It shows plants growing on soils of high, low and medium nitrogen fertility. While it is true that the soil may be overly supplied with nitrogen, this is not likely to happen. Generally a good loam collected from a field where tomatoes have not grown previously, and where field crops have grown exceptionally well, will furnish a good soil for plant production.



Soil fertility affects plant growth. The plants in the flat on the left are in good soil. Center flat contains poor soil and the one on the right is of medium fertility.

Use a Liquid Fertilizer at the Time the Plants Are Set in the Field

The use of liquid fertilizer for watering plants at the time they are set in the field helps the plants to get a quicker start. This is a simple, inexpensive process. By using one pound of a 4-12-4 fertilizer in five gallons of water, a good starter solution can be made. The fertilizer is simply dumped into the water and allowed to stand for a few hours. After the plants are set in the field, a half pint of this solution is poured on the soil around the freshly set plant. The chart on the cover illustrates graphically how the yields for different varieties receiving this fertilizer compare with plants receiving no fertilizer.