

# SUCCESSFUL POTATO GROWING IN SOUTHERN ARIZONA

By C. B. BROWN

County Agricultural Agent, Pima County

Systematic Field Tests Carried on in Various Parts of the Santa Cruz and Rillito Valleys Have Shown That The Irish Cobbler and Bliss Triumph Varieties Out Rank All Others in Yield and Quality

**W**HEN asked, several years ago, by some farmers in the lower Santa Cruz valley for reliable information on potato growing in this section of the State, we found that such was not available. A number of old residents talked to, gave us a great diversity of opinions as to varieties and cultural methods, much of which was of a contradictory nature and could be used only as an outline for a systematic study of the problem. The results of the study given in this article were to a considerable degree made possible by the kind cooperation of the members of the Department of Horticulture of the University and especially Mr. F. J. Crider, former head of the Department.

## Soil

The selection of the proper type of soil is very essential to the production of a good yield and quality of potatoes. Many of our farmers have made costly mistakes by planting on soil unsuited to this crop. It is rather difficult to describe the kind of soil which is best, but briefly it is a sandy loam containing a large percentage of silt and a good supply of organic matter. Other physical characteristics are a reasonable freedom from baking and the ability to



A PLATE OF BLISS TRIUMPH PRIZE WINNERS

sub water well. Many soils which do not now embody these characteristics to the proper degree can be made to do so by building up with organic matter. The use of lettuce, alfalfa or sweet clover are all good for this purpose.

## Varieties and Yields

The selection of the best variety

or varieties was a question upon which we found a great variety of opinion. Early White Rose was formerly the principal variety grown. This was followed five years ago with the Peerless, which has now given way to the Irish Cobbler and Bliss Triumph. Of the five varieties selected for systematic field tests in various parts of the Santa Cruz and Rillito Valleys, the Irish Cobbler and Bliss Triumph have shown up best in yield of marketable potatoes and quality. They both fill the requirements of a potato which can go on the Southwestern markets from May 2 to July 1 and hold up well. During this period competition from Texas and California is at a minimum.

The Peerless, which has been the principal commercial variety grown is a good potato, but being a late variety it does not hold up satisfactorily on an early market.

The following table shows the average total yield, marketable and cull potatoes, in order of rank of marketable potatoes for the years 1922-1924, inclusive:



A FIELD OF THE IRISH COBBLER VARIETY GROWN IN THE SANTA CRUZ VALLEY

**Average Total Yield, Marketable and Cull Potatoes in Order of Rank of Marketable Potatoes for the Years 1922-1924, Inclusive.**

	Acre Yield Pounds	Acre Yield Pounds Mkt.	Acre Yield Pounds Culls	Per Cent Market	Per Cent Culls	Rank Per Cent Market
<b>IRISH COBBLER:</b>						
1st Planting	6332	5084	1350	80	20	
2nd Planting	4985	4094	892	83	18	
Average	5503	4424	1044	82	18	1
<b>BLISS TRIUMPH:</b>						
1st Planting	6022	3985	2038	69	31	
2nd Planting	5164	3906	1326	73	27	
Average	5494	3939	1623	71	29	2
<b>WHITE ROSE:</b>						
1st Planting	4276	3332	943	80	20	
2nd Planting	3958	2794	1164	64	36	
Average	4080	3001	1002	70	30	3
<b>PEACHBLOW:</b>						
1st Planting	5783	3894	1890	68	32	
2nd Planting	3419	2353	1066	61	27	
Average	4329	2945	1383	64	29	4
<b>PEERLESS:</b>						
1st Planting	2296	1593	703	43	37	
2nd Planting	4562	3513	1050	66	34	
Average	3690	2774	916	57	35	5

The above table is the average of all tests. Some years growers have produced over one hundred sacks of marketable spuds per acre. The highest yield we have a record of is one hundred and thirty sacks of marketable potatoes from one acre.

**Cost of Production and Profits**

Cost of production figures, of course, vary a great deal as to the grower and many other factors but we have conservatively estimated all costs to range from \$75.00 to \$100.00 per acre. In terms of crop produced at a market value of \$3.00 per cwt., a yield of from twenty-five to thirty-three cwt. would be needed to break even.

**Seed**

The securing of good seed has been a serious problem, and our failure to secure seed free of disease and full of vitality has in many cases been the cause of low yields and poor quality. The planting of certified seed is to be recommended when same can be procured at a reasonable price. We are trying out certified seed potatoes on an extensive scale for the first time this year. All seed potatoes should receive the corrosive sublimate treatment for scab and rhizoctonia before planting.

**Planting Date**

In our tests, two dates of planting were used, February first and fifteenth. Our results indicate that any time from February first to twentieth is good for the Santa Cruz Valley. The main idea is to plant early enough to have the development of tubers well under way before hot weather sets in. Late spring

freezes sometimes occur and damage the crop to a considerable extent. We have had only one bad freeze, however, in the past five years. Late freezes usually destroy a portion of the foliage but recovery is rapid.

**Cultural Methods and Irrigation**

The soil should be filled with moisture to a depth of three to four feet and a good seed bed prepared before planting. This moisture should be sufficient in the proper kind of soil to carry the crop to about the blooming stage, or until the crop of tubers have been set. Of course during this period some cultivation and hilling up has been done, which affords a channel for irrigation water. From this time on it is very necessary to keep the soil about the tubers moist with frequent irrigation. Skill, experience and careful observation are all needed to properly irrigate pota-

atoes. Ten days before harvesting no water is applied in order that the spuds may harden and be free from dirt when sacked. Great care should be exercised in irrigating to not flood the vines as this is sure to very materially reduce the yield and quality of the crop.

**Conclusion**

The development of the early potato industry has only started, but it has a fairly good foundation upon which to grow. The more extensive use of certified seed, and a program of soil building by the use of green manure crop will produce yields that will make the crop a profitable one. This crop will also give the farmer some ready cash at a time of year when it is often badly needed.

**MORE PROFITS FROM POULTRY**

Poultrymen in Arizona in 1924, working in direct co-operation with the Agricultural Extension Service of the University, increased their profit above feed costs \$164.93 per flock over 1923. The average net profit per hen increased from \$1.56 in 1923 to \$2.41 in 1924.

From accurate records these co-operators have shown a consistent and rapid improvement in efficient egg production during the years these records have been kept.

Three thousand carloads of tomatoes will be shipped into the United States from the western coast of Mexico this year.



THE PRODUCT OF A SINGLE HILL OF IRISH COBBLERS GROWN IN PIMA COUNTY