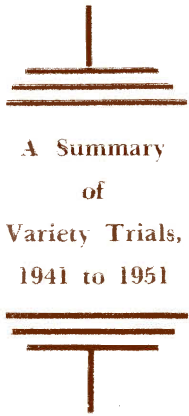


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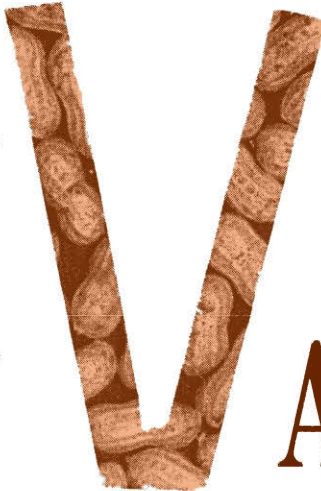
June 1953



PEANUT



A Summary
of
Variety Trials,
1941 to 1951



VARIETIES

For Oklahoma

By L. L. LIGON, *Department of Agronomy*

OKLAHOMA AGRICULTURAL EXPERIMENT STATION

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- This bulletin summarizes results of the Station's peanut variety ●
- trials since 1941. It also lists and describes the varieties recommended ●
- for planting in Oklahoma on the basis of those results. ●
- Information on peanut culture in Oklahoma is available in ●
- Oklahoma Station Bulletin B-361, *A Handbook of Peanut Growing* ●
- *in the Southwest*, published jointly with the Texas Agricultural Experi- ●
- ment Station. A less detailed discussion is given in Oklahoma Exten- ●
- sion Circular E-410, *Peanuts in Oklahoma*. ●

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Peanut Varieties

for Oklahoma:

A Summary of Variety Trials, 1941 to 1951.

By L. L. LIGON

Department of Agronomy

Formal peanut variety comparisons were begun by the Station at Stillwater in 1930. Wartime and postwar importance of peanuts as an oil crop brought an expansion of this test in 1941. A second variety test was set up at the Southeast Soil and Pasture Station, Heavener, in 1942, and a third at the Southern Soil Improvement Station, Lone Grove, in 1946.

Since 1951, the Station's field research with peanuts has centered at the Peanut Experiment Farm near Stratford, where conditions are representative of those found in the principal peanut-producing areas of Oklahoma.*

The Varieties of Peanuts

RECOMMENDED VARIETIES

The four varieties of peanuts currently recommended for plant-

ing as a field crop in Oklahoma are all of the Spanish type. They are:

Argentine.

Dixie Spanish.

Spanish 18-38.

Spantex.

The names "Argentine" and "Dixie Spanish" were adopted recently. These varieties were tested under the designations "Spanish 121070" and "Spanish 146," respectively.

All Spanish-type varieties have a small, upright plant, with two-seeded pods clustered closely around the base of the main stem. The nuts are used in making peanut candy, for salted peanuts, and for oil. It is the earliest maturing of any of the various types of peanuts.

The upright growth makes for easy cultivation and harvesting. The compact bunching of the nuts,

* Expansion of the Station's peanut research in 1951 was made possible in part through a grant of funds by the Southwestern Peanut Growers Association to the Texas and Oklahoma Agricultural Experiment Stations.

and the rapid flowering, contribute to the early maturity, thereby reducing the percentage of immature kernels, or "pops."

Data on performance of the four recommended varieties in Station trials to date are summarized in Table I. Improved Spanish is included for comparison, because it is representative of the better type of peanut seed now being generally planted in Oklahoma. The recommended varieties are listed alphabetically, and not in any order of priority.

The Spanish types averaged about 10 percent higher shelling percentage than the other types. This was due to having smaller, thinner shells and a lower number of unfilled pods.

Some of the Runner and Valencia types had higher yields than Improved Spanish but are not considered for Oklahoma because of yield variations, and because the eastern states can produce these types much more economically than can Oklahoma producers.

Argentine

Argentine variety was tested under the designation Spanish 121070. The seed are considerably larger and somewhat more uniform in size than any of the other Spanish varieties. It matures about a week later than Spanish 18-38.

Dixie Spanish

Dixie Spanish was tested under the designation Spanish 146. It

has larger seed than either Spanish 18-38 or Spantex, and matures several days later. The plants are slightly larger and coarser than either of these other two varieties.

Spanish 18-38

Spanish 18-38 has been on the recommended list since 1947, and a considerable acreage is now being grown in Oklahoma. Some certified seed is available. This variety is a small-seeded, early-maturing type developed many years ago in the Southeastern states.

Spantex

Spantex was developed by the Texas Agricultural Experiment Station and was first recommended for planting in Oklahoma in 1950. Some certified seed is available from Oklahoma growers. This variety is similar to Spanish 18-38 in growth habit and nut size.

OTHER TYPES OF PEANUTS

Peanuts of the Tennessee Red, Jumbo and Runner types have been unsatisfactory in Oklahoma because too many defects developed under the soil and climatic conditions existing in the peanut areas of the state. The percentage of "pops" was too high, and nuts were heavily penalized in the market because of irregularity in size. However, persons growing a few peanuts for home use might wish to plant these types because of the larger nuts produced.

SUMMARY: Recommended Varieties.

Table I.—Performance of Recommended Peanut Varieties in Station Tests, and Comparison With the “Improved Spanish” Variety.*

Item (and table where shown in detail)	Recommended varieties			Spantex	Improved Spanish (check)
	Argentine (Spanish 121070)	Dixie (Spanish 146)	Spanish 18-38		
Yield of shelled nuts (pounds per acre)					
Stillwater-Perkins (Table II)	797	863	771	709	651
Heavener (Table III)	783	784	487	**	707
Lone Grove (Table IV)	504	538	411	**	514
Average of the three locations (Table V)	676	733	596	709	636
Stratford† (Table VIII)	426	305	416	351	**
Yield of No. 1 kernels (pounds per acre) (Table V)	644	683	563	670	573
Hay yield (tons per acre) (Table V)	1.48	1.52	1.46	1.74	1.82
Oil content of kernels (percent) (Table VI)	49.7	47.7	48.1	48.0	48.7
Protein content of kernels (percent) (Table VII)	33.1	32.5	32.3	31.7	30.4

* In interpreting this table, consideration should be given to the varying number of years and locations averaged, as shown in other tables.

** Not included in test at this location.

† 1951 and 1952, with 1952 being an extremely poor year for peanuts. See page 8.

The **Tennessee Red** type of peanut has heavier foliage than the Spanish and is not so upright in growth habit. The side branches tend to grow outward and nearly parallel to the soil surface. The pods have three to five red-coated kernels which are larger and more irregular in shape than the Spanish. It requires a longer growing season than the Spanish and must be harvested later to secure the maximum number of filled pods.

The **Jumbo** group includes both semi-upright and runner plants. They mature about two weeks later than the Spanish. The pods are large, thick hulled, and contain large, oblong kernels.

The **Runner** type all have a prostrate habit of growth. One plant often spreads over an area two to three feet in diameter. The nuts vary in size from the larger Spanish to the Jumbo varieties.

Results of Variety Tests

Variety test results shown in the tables include only those varieties of current interest, either for sale or for home consumption. Other varieties were tested, but were either obviously unsuited to Oklahoma conditions or are no longer available.

Improved Spanish is used as a basis of comparison, since it is a generally known variety and has been grown at all test locations in most years.

Varieties are ranked by yield of shelled nuts in the tables reporting individual test locations (Tables II, III, and IV), since this characteristic is usually of most immediate and direct interest to Oklahoma farmers. In the summary, Table V, however, they are ranked by yield of No. 1 kernels, which is the basis used when nuts are sold strictly on quality grade.

Hay yields are included in the tables as an indication of the relative amount of top growth produced by the different varieties.

YIELDS AT STILLWATER- PERKINS, HEAVENER, and LONE GROVE

Table II shows yield data for the Stillwater-Perkins trial from 1942 through 1951. The test was transferred from Stillwater to Perkins in 1949. Data are combined for the two locations because the change apparently had little effect on the relative rank of varieties.

Yields at Heavener (Table III) were, in general, consistently lower than in the Stillwater-Perkins trial. However, Improved Spanish made a higher yield at Heavener than at Stillwater-Perkins; and the yield of Argentine was fairly similar at the two locations.

Table IV shows results of the variety trial at Lone Grove.

Results at these three locations are summarized in Table V. The

percentage of No. 1 kernels used in this table is based on records from the Stillwater-Perkins and Heavener tests. No. 1 samplings were not taken at the Lone Grove trials. The percentages were determined by the number of nuts retained on a 14/64 slotted screen in the case of the Spanish types and on a 16/64 slotted screen in the case of other types.

OIL AND PROTEIN CONTENT

Table VI reports oil content for most of the varieties grown in the Stillwater-Perkins and Lone Grove tests, and Table VII gives protein content of Spanish varieties grown at Stillwater-Perkins. Differences are, in general, small.

RESULTS AT STRATFORD, 1951-1952

The Oklahoma Station early in 1950 purchased a 50-acre farm near Stratford, Okla., to be used pri-

marily for experiments designed to increase the per acre production of peanuts in this state. It is known as the Peanut Experiment Farm.

A trial comparing 10 Spanish-type varieties was started in 1951. Table VIII gives average results of this test for 1951 and 1952. Data in this table should be used with caution and only in combination with that from other locations, since dry weather made the 1952 season decidedly unfavorable for peanuts at the Stratford location. The 1952 yields of nuts were about two-thirds of those obtained in 1951, and shelling percentage was also low. Hay yields showed little effect of the dry weather, however.

The variety listed as "Local Spanish" was grown from seed obtained in the neighborhood and is representative of what is generally planted in the central Oklahoma peanut area.

YIELDS: STILLWATER - PERKINS.

Table II.—Average Nut and Hay Yields, and Shelling Percentage, of Peanut Varieties; Stillwater-Perkins Trials, 1941-1951.

Variety	Number years in test	Yield of unshelled nuts (lbs. per acre)	Shelling percentage	Yield of shelled nuts		Hay yield (tons per acre)
				Pounds per acre	Percentage of Improved Spanish	
Dixie (Spanish 146)	7	1123	76.8	863	133	1.61
White Spanish	5	1079	75.2	811	125	1.13
Argentine (Spanish 121070)	5	1053	75.7	797	122	1.44
Spanish 13-10*	8	1014	76.3	774	119	1.80
Virginia Runner	2	1143	67.5	772	119	2.10
Spanish 18-38	9	991	77.8	771	118	1.62
North Carolina Runner	5	1101	69.0	760	117	2.20
Spanish 205*	4	1040	72.2	750	115	1.25
Jumbo	9	1154	63.1	728	112	1.47
Spantex	4	945	75.0	709	109	1.74
Improved Valencia	9	1022	68.8	704	108	2.02
Virginia Bunch	8	1064	64.4	686	105	1.60
Improved Spanish	10	860	75.7	651	100	1.21
Texas 20	4	848	76.4	648	100	1.32
Tennessee Red	8	873	68.6	599	92	1.85

* These varieties are still in the experimental stage and are not available for planting.

YIELDS: Heavener.

Table III.—Average Nut and Hay Yields, and Shelling Percentage of Peanut Varieties; Heavener Trials, 1942-1950.

Variety	Number years in test	Yield of unshelled nuts (lbs. per acre)	Shelling percentage	Yield of shelled nuts		Hay yield (tons per acre)
				Pounds per acre	Percentage of Improved Spanish	
Dixie (Spanish 146)	5	1024	76.6	784	111	1.33
Argentine (Spanish 121070)	4	1065	73.5	783	111	1.43
Improved Spanish	8	911	77.6	707	100	1.25
Virginia Bunch	8	969	65.8	638	90	1.56
North Carolina Runner	3	893	68.0	608	86	1.44
Jumbo	7	993	61.1	607	86	1.59
White Spanish	4	697	76.0	530	75	0.98
Spanish 13-10	3	696	74.9	522	74	0.85
Spanish 207-3	6	770	67.1	517	73	1.65
Spanish 18-38	6	631	77.1	487	69	1.22
Macspan	3	700	69.4	486	69	0.70
Tennessee Red	8	685	67.1	460	65	1.28
Improved Valencia	7	664	68.1	452	64	1.21
Tennessee Long Red	3	565	67.7	383	54	0.96

YIELDS: Lone Grove.

Table IV.—Average Nut and Hay Yields, and Shelling Percentage, of Peanut Varieties; Lone Grove Trials, 1946-1951.

Variety	Number years in test	Yield of unshelled nuts (lbs. per acre)	Shelling percentage	Yield of shelled nuts		Hay yield (tons per acre)
				Pounds per acre	Percentage of Improved Spanish	
Spanish 13-10	2	739	78.1	577	112	1.28
Dixie (Spanish 146)	6	705	76.3	538	105	1.56
Improved Spanish	6	676	76.0	514	100	1.59
Argentine (Spanish 121070)	6	660	76.1	504	98	1.55
Virginia Bunch	6	710	66.6	473	92	1.94
Spanish 18-38	5	552	74.5	411	80	1.47
Jumbo	6	703	58.3	409	80	1.92
Spanish 207-3	5	557	67.1	374	73	1.94
Spanish 205	2	502	71.9	361	70	1.28
White Spanish	2	502	71.9	361	70	1.28
Improved Valencia	6	472	72.5	342	67	1.53
Tennessee Red	6	416	63.9	266	52	1.56

YIELDS: Summary.

Table V.—Summary of Average Hay and Nut Yields and Shelling Percentage, and Calculated Yield of No. 1 Shelled Nuts, of Peanut Varieties; Stillwater-Perkins, Heavener, and Lone Grove, 1941-1951.

Variety	Station-years averaged*	Shelling percent-age	Yield of shelled nuts		Percent-age of No. 1 kernels**	Calculated yield of No. 1 kernels†		Yield of hay (tons per acre)
			Pounds per acre	Spanish Percent-age of Improved		Pounds per acre	Percent-age of Improved Spanish	
Dixie (Spanish 146)	18	77	733	115	93.3	683	119	1.52
Spantex	4	75	709	112	94.5	670	117	1.74
Spanish 13-10	13	76	686	108	95.2	653	114	1.50
Virginia Runner	2	68	772	121	85.0	656	114	2.10
Argentine (Spanish 121070)	15	75	676	106	95.2	644	112	1.48
North Carolina Runner	8	69	702	110	84.3	592	103	1.91
White Spanish	11	75	627	99	92.5	580	101	1.10
Spanish 205	6	72	621	98	93.4	580	101	1.26
Improved Spanish	24	76	636	100	90.2	573	100	1.82
Spanish 18-38	20	77	596	94	94.6	563	98	1.46
Jumbo	22	61	602	95	83.3	502	88	1.63
Virginia Bunch	22	66	610	96	81.6	498	87	1.68
Improved Valencia	22	70	525	83	85.8	451	79	1.63
Macspan	3	70	486	76	92.0	447	78	0.70
Tennessee Red	22	67	458	72	89.2	408	71	1.56
Spanish 207-3	11	67	452	71	85.2	385	67	1.78
Tennessee Long Red	3	68	383	60	85.8	328	57	0.96
Texas 20	4	76	648	102	††	††	††	1.32

* A "station-year" is a test grown one year at one station; for example, Dixie was tested 7 years at Stillwater-Perkins, 5 years at Heavener, and 6 years at Lone Grove for a total of 18 station-years.

** Based on extensive sampling each year of nuts from the Stillwater-Perkins and Heavener tests.

† Percentage of No. 1 kernels as in foregoing footnote applied to average yield of shelled nuts at all three locations.

†† Data not available.

OIL CONTENT.

Table VI.—Oil Content of Peanuts, by Varieties; Stillwater-Perkins Trials, 1941-1951, and Lone Grove Trials, 1946-1951.

Variety	Stillwater-Perkins		Lone Grove		Average	
	Number years tested	Oil content (Pct.)	Number years tested	Oil content (Pct.)	Station-years*	Oil content (Pct.)
Argentine (Spanish 121070)	5	49.08	6	50.36	11	49.7
Spanish 13-10	8	48.76	2	53.36	10	49.6
White Spanish	5	49.45	—	—	5	49.5
Virginia Bunch	8	49.26	—	—	8	49.3
Spanish 205	4	48.37	2	51.11	6	49.2
North Carolina Runner	5	49.00	—	—	5	49.0
Improved Spanish	10	48.59	6	49.07	16	48.7
Spanish 18-38	9	48.24	5	48.02	14	48.1
Spantex	4	48.02	—	—	4	48.0
Texas 20	4	48.08	—	—	4	48.1
Improved Valcencia	9	48.45	6	46.62	15	47.7
Dixie (Spanish 146)	7	47.96	6	47.51	13	47.7
Jumbo	9	47.51	—	—	9	47.5
Tennessee Red	8	48.06	6	45.86	14	47.1
Spanish 207-3	—	—	5	45.55	5	45.6

* A "station-year" is a test grown one year at one station. See footnote to Table V.

PROTEIN.

Table VII.—Average Protein Content of Peanuts, by Varieties; Stillwater-Perkins Tests, 1941-1951.

Variety	Number years tested	Protein content of kernels (percent)
Argentine (Spanish 121070)	5	33.06
Dixie (Spanish 146)	7	32.47
Spanish 18-38	9	32.31
Spantex	4	31.72
Texas 20	4	31.59
Spanish 205	4	31.35
Spanish 13-10	8	31.30
Improved Spanish	10	30.35

STRATFORD FARM.

Table VIII.—Results of Peanut Variety Trials at Peanut Experiment Farm, Stratford, Okla.; 1951 and 1952.

Variety	Yield of unshelled nuts (lbs. per acre)	Shelling percentage	Yield of shelled nuts		Farm value per acre at \$150 per ton (unshelled)	Hay yield (tons per acre)
			Pounds per acre	Percentage of Improved Spanish		
Argentine (Spanish 121070)	610	69.8	426	117	\$ 45.78	1.40
Spanish 18-38	564	73.4	416	114	42.33	1.76
Texas 24	522	74.4	388	106	39.15	1.53
Texas 26	551	70.2	387	106	41.36	1.39
Texas 20	531	70.4	374	102	39.80	1.52
Spanish 13-10	513	71.7	368	101	38.46	1.51
Local Spanish*	509	71.8	366	100	38.20	1.69
Spanish 205	517	70.4	364	100	38.77	1.48
Spantex	502	69.9	351	96	37.64	1.26
Dixie (Spanish 146)	467	65.2	305	83	35.06	1.40

* Seed obtained in the neighborhood and believed to be representative of that generally planted in the central Oklahoma peanut-growing area.