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OF THE

AGRICULTURAL DEPARTMENT

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B. E. McLIN
COMMISSIONER OF AGRICULTURE
TALLAHASSEE, FLA.

Part 1—Crops Part 2—Weather Report

Part 3—Fertilizers and Feed Stuff

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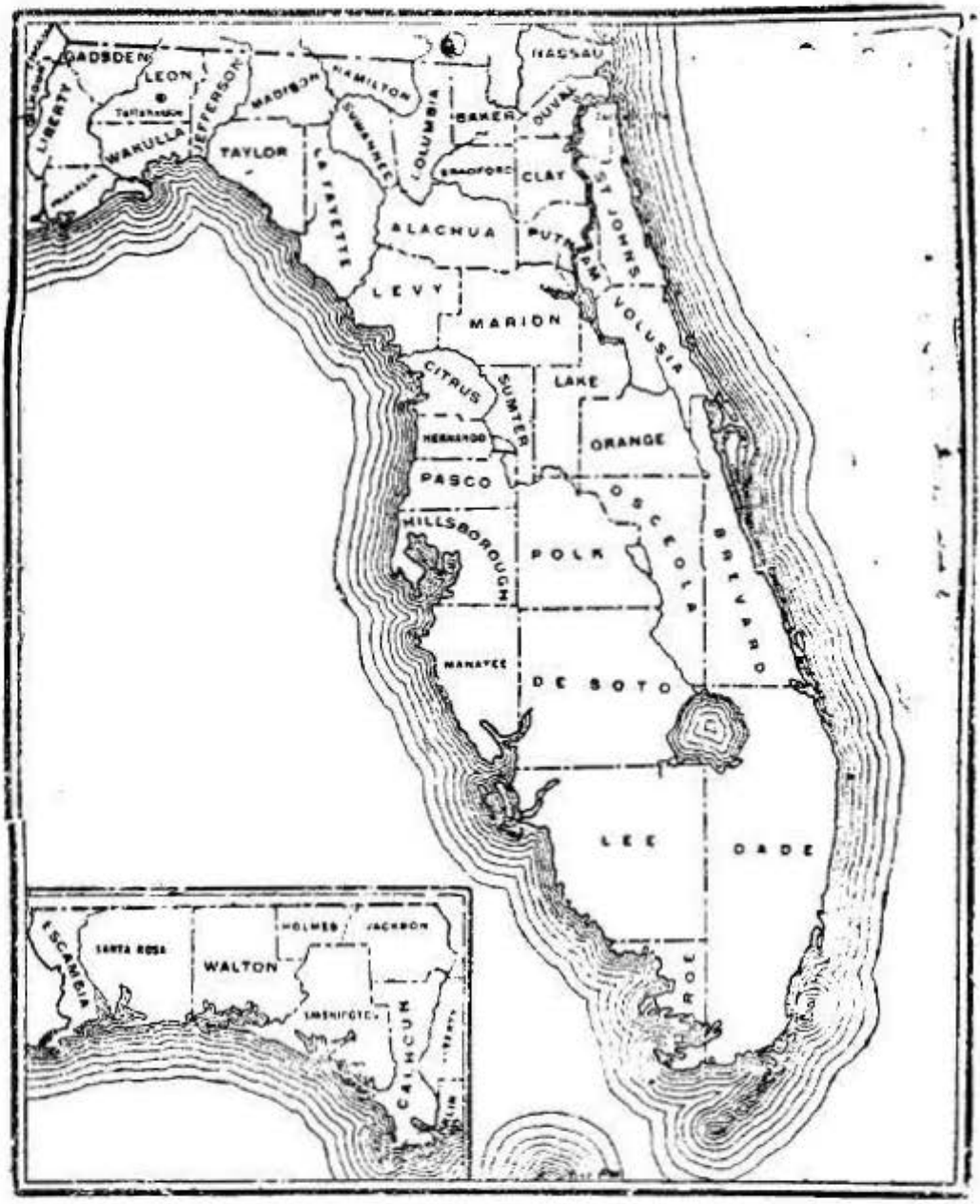
COUNTY MAP OF THE STATE OF FLORIDA



PART I.

CROPS

DIVISION OF THE STATE BY COUNTIES.

Following are the divisions of the State, and the counties contained in each:

Northern Division.

Franklin,
Gadsden,
Hamilton,
Jefferson,
LaFayette,
Leon,
Liberty,
Madison,
Suwannee,
Taylor,
Wakulla.—11.

Northeastern Division

Alachua,
Baker,
Bradford,
Clay,
Columbia,
Duval,
Nassau,
Putnam,
St. Johns—9.

Western Division.

Calhoun,
Escambia,
Holmes,
Jackson,
Santa Rosa,
Walton,
Washington—7.

Central Division.

Citrus,
Hernando,
Lake,
Levy,
Marion,
Orange,
Pasco,
Sumter,
Volusia—9.

Southern Division.

Brevard,
Dade,
DeSoto,
Hillsborough,
Lee,
Manatee,
Monroe,
Osceola,
Polk,
St. Lucié—10.

DEPARTMENT OF AGRICULTURE

B. E. McLIN, Commissioner H. S. ELLIOT, Chief Clerk

CONDENSED NOTES OF CORRESPONDENTS.

By Divisions.

Northern Division.—The crops of this Division show by comparison very much the same condition that existed last year; the seasons were not favorable for good field crops, and the cotton crop is apparently shorter than last year; it is probable cotton will not make more than 62 to 64 per cent of a crop, if that, in some sections, and the low pricee is prevailing the picking, as it will not bring on sale but very little more than it costs to gather; consequently large quantities of it are still standing in the fields, and will remain there unless some change for the better speedily comes about. Labor is scarce, and money still scarcer, and in the harvesting of crops, particularly cotton, the farmer is in bad shape. The corn crop is by no means a full crop; in some localities it is short; the average yield of the district will be about the same as last year. There has been a good Hay crop harvested, and put away in fine condition.

Western Division.—There is practically no difference in the conditions existing in this Division and the Northern. The percentage of condition and prospective yield is somewhat lower, but in all essential respects the crop situation is very much the same. The shortness of the principal crops and the impossibility of their regaining the loss is now perfectly well known to even the most optimistic person; the cotton crop is certain to be very near to 40 per cent short, with corn about 25 per cent, and other crops in proportion. The scarcity of labor, high wages, and poor prices, are complained of in this district as elsewhere, and no improvement in sight. A fair hay crop has been harvested; live stock is in good condition, and pastures are in pretty good shape.

NORTHEASTERN DIVISION.—In this Division crop conditions are little different from the preceding districts, having suffered and are still laboring under pretty much the same difficulties. In some portions of the district the vegetable and small fruit crop suffered greatly, and in later months the field crops also lost ground very generally. As in the foregoing districts cotton is in poor shape generally, and no possibility of its recovery; complaints are numerous and strong of the low crop conditions, and the scarcity as well as inefficiency of labor, the price of which has gone beyond the value of the crops, and has brought on a sort of demoralized condition among farm laborers. With cotton, the leading farm crop of this country, selling below the cost of production, a readjustment of wage prices is soon inevitable.

CENTRAL DIVISION.—In this Division, which is more of a vegetable and fruit growing district than general farming, the conditions have been somewhat better, though in some portions of the district, the conditions for favorable crop growing have been exceedingly poor, and results have been discouraging and unprofitable. In some parts of this district the volume of the orange crop is asserted to be very large; in others it is claimed to be short; but a comparison of the reports by our correspondents indicate that, the crop will be very little, if any, in excess of last year, while information from the same source indicates that the grapefruit crop is about the same as last year. In some sections of this district the supply of labor is as serious a problem as in other districts above mentioned; numerous complaints being to the effect that crops could not be gathered for want of labor.

SOUTHERN DIVISION.—The principal industry in this Division is that of fruit and vegetable growing, the standard field crops being comparatively little grown. Such field crops as are grown, are confined to corn, sweet potatoes, suargcane, and hay, in small areas, and they have

prospered only in spots, so to speak. In this district there have been dry areas, and wet areas, the rains having fallen in scattered localities; however, the vegetable crops thrive better under adverse moisture conditions than any other class of crops, and this section has produced fair crops of vegetables; the fruit crops have suffered most, and apparently have little more than held their own in point of both condition and production.

Reviewing the situation as to the cotton and fruit crops of the State, a comparison of conditions indicates that the cotton product of the State will be close to 57,000 to 58,000 bales, a reduction of 30 per cent of the normal crop. A comparison of the condition of the present orange and grapefruit crops with condition at same date last year indicate only a very slight increase in either crop. The orange crop of 1906-7 amounted to 3,006,534 boxes, and the comparative conditions go to show that the crop of 1907-8 will be very little larger—hardly a greater increase than 250,000 boxes, so that it is very probable that the crop now on will not exceed 3,256,000 boxes. The grapefruit shows a little better condition, and by the same sources of comparison there is a slight increase also. The grapefruit crop of 1906-7 amounted to 450,304 crates, and the present indications are that it will not exceed 472,819 crates for 1907-8. An error that is harmful to both crops is that of estimating both oranges and grapefruit as one; they should be kept entirely separate, and then both buyers and sellers of fruit have a fairer field of operation. We therefore estimate the orange crop of 1907-8 at approximately 3,256,000 boxes, and the grapefruit crop of 1907-8 at 472,819 crates, or a total of citrus fruit products of 3,728,819 boxes or crates.

REPORT OF CONDITION AND PROSPECTIVE YIELD

OF CROPS, FRUITS AND FRUIT TREES FOR QUARTER ENDING SEPTEMBER 30, 1908, AS COMPARED WITH AN AVERAGE DURING SAME PERIOD OF 1907.

COUNTIES	UPLAND COTTON		SEA ISLAND COTTON		CORN		SUGAR CANE		FIELD PEAS	
NORTHERN DIVISION.	Condition	Prospective yield	Condition	Prospective yield	Condition	prospective yield	Condition	Prospective yield	Condition	Prospective yield
Franklin	.....	.....	.....	.....	80	80	85	90	85	80
Hamilton	.....	.....	75	75	75	75	50	60	50	50
Jefferson	100	70	100	80	100	80	100	100	100	100
Lafayette	.....	.....	50	50	85	85	85	85	90	75
Leon	75	50	.....	.....	90	80	95	95	75	80
Liberty	80	85	90	90	100	110	90	95	55	55
Madison	50	50	40	30	50	50	75	60	60	50
Suwannee	.....	.....	70	70	100	100	90	90	90	90
Wakulla	50	55	.....	.....	100	100	100	100	100	100
Division average per cent	71	62	71	66	87	84	86	86	78	75
WESTERN DIVISION.										
Calhoun	75	76	.....	.....	110	100	100	100	75	75
Escambia	66	66	.....	.....	100	100	120	110	100	100
Holmes	60	60	.....	.....	100	100	100	100	95	95
Jackson	65	65	.....	.....	100	100	100	100	90	95
Santa Rosa	80	80	.....	.....	100	100	95	100	90	90
Walton	65	70	.....	.....	70	70	70	70	75	75
Washington	66	65	60	70	80	85	75	80	80	75
Division average per cent	68	69	60	70	94	94	94	94	86	86

Northeastern Division.										
Alachua	.....	.....	80	75	100	100	80	80	80	40
Baker	65	65	70	70	100	100	100	100	60	60
Bradford	.....	.....	80	85	120	120	90	90	100	100
Clay	.....	.....	.....	.....	100	100	110	110	100	100
Columbia	.....	.....	85	80	100	100	75	75	85	85
Division average per cent	65	65	79	77	104	104	91	90	79	77
Central Division.										
Citrus	.....	.....	.....	.....	60	55	80	75	90	90
Hernando	.....	.....	.....	.....	85	95	90	90	75	75
Lake	.....	.....	.....	.....	90	90	85	85	95	100
Levy	.....	.....	85	75	90	90	90	90	100	100
Marion	..	.....	50	50	100	100	80	80	.....	.....
Orange	.....	.....	.....	.....	75	75	.....	.....	50	50
Pasco	.....	.....	.....	.....	90	90	80	85	100	100
Sumter	.....	.....	90	90	75	75	95	95	95	95
Division average per cent	.....	.....	75	72	83	84	86	86	86	87
Southern Division.										
Brevard	.....	.....	.....	.....	100	100	75	75	50	50
Dade	.....	.....	.....	.....	100	100	100	100	100	100
DeSoto	.....	.....	.....	.....	33	33	70	70	85	85
Hillsboro	.....	.....	.....	.....	92	92	100	100	75	80
Lee	.....	.....	.....	.....	.....	.....	100	100	.....	.....
Manatee	.....	.....	.....	.....	.....	.....	100	100	100	100
Polk	.....	.....	.....	.....	80	65	90	75	70	70
St. Lucie	.....	.....	.....	.....	.....	.....	100	100	.....	.....
Division average per cent	.....	.....	.....	.....	81	78	92	90	80	81
State average per cent	68	65	71	71	90	89	90	89	82	81

CONDITION AND PROSPECTIVE YIELD OF CROPS—Continued.

COUNTIES	RICE		SWEET POTATOES		CASSAVA		PEANUTS		BROOM CORN	
NORTHERN DIVISION.	Condition	Prospective yield	Condition	Prospective yield	Condition	Prospective yield	Condition	Prospective yield	Condition	Prospective yield
Franklin	.....	.....	90	100	.....	.....	75	75	.....	50
Hamilton	75	75	75	80	.....	.....	75	75	50	50
Jefferson	.....	.....	100	100	.....	.....	100	80	.....	....
Lafayette	90	75	90	80	80	80	90	90	.....	....
Leon	.....	.....	100	110	.....	.....	90	85	.....	....
Liberty	100	100	85	95	.....	.....	90	85	.....	....
Madison	.....	.....	75	60	.....	.....	50	50	.....	....
Suwannee	75	75	100	100	.....	.....	100	100	.....	....
Wakulla	.....	.....	100	100	.....	.....	100	100	.....	....
Division average per cent.	85	81	91	92	80	80	86	82	50	50
WESTERN DIVISION.										
Calhoun	95	95	112	110	.....	.....	100	90	50	50
Escambia	80	75	125	125	.....	.....	100	125	100	100
Holmes	.....	.....	100	100	.....	.....	90	90	.....	....
Jackson	.....	.....	110	100	.....	.....	90	90	.....	....
Santa Rosa	.....	.....	95	100	.....	.....	100	90	.....	....
Walton	.....	.....	80	90	.....	.....	50	60	.....	....
Washington	.....	.....	85	90	.....	.....	75	75	.....	....
Division average per cent.	87	85	101	102	.....	.....	86	90	75	75
NORTHEASTERN DIVISION.										
Alachua	.....	.....	100	100	.....	.....	80	80	.....	....
Baker	.....	.....	60	75	.....	.....	85	87	.....	....
Bradford	.....	.....	120	120	.....	.....	90	90	.....	....

Clay	.....	.....	110	115	.....	.....	100	100	.....	.....
Columbia	60	50	90	75	.....	.....	90	90	.....	.....
Division average per cent.	60	50	96	97	.....	.....	89	89	.....	.....
CENTRAL DIVISION.										
Citrus	.....	.....	100	95	.....	.....	100	100	.....	.....
Hernando	95	90	95	90	.....	.....	85	90	.....	.....
Lake	.....	.....	90	90	85	85	.....	.....	.....	.....
Levy	.....	.....	100	100	.....	.....	100	100	.....	.....
Marion	.....	.....	100	100	.....	.....	100	100	.....	.....
Orange	.....	.....	90	90	.....	.....	.....	.....	.....	.....
Pasco	.....	.....	85	90	.....	.....	90	75	.....	.....
Sumter	.....	.....	100	100	.....	.....	100	100	.....	.....
Division average per cent.	95	90	95	94	85	85	96	94	.....	.....
SOUTHERN DIVISION.										
Brevard	.....	.....	100	100	.....	.....	75	75	.....	.....
Dade	.....	.....	100	112	.....	.....	100	100	.....	.....
DeSoto	125	125	100	110	100	100	110	110	.....	.....
Hillsboro	85	90	85	90	80	80	72	75	.....	.....
Lee	100	100	100	100	.....	.....	.....	.....	.....	.....
Manatee	100	80	100	100	100	100	100	100	.....	.....
Polk	75	80	85	80	100	80	.....	.....	.....	.....
St. Lucie	.....	.....	100	100	.....	.....	.....	.....	.....	.....
Division average per cent.	97	95	96	99	95	90	91	92	.....	.....
State average per cent.	85	80	96	97	87	85	89	89	62	62

CONDITION AND PROSPECTIVE YIELD OF CROPS—Continued

COUNTIES.	HAY GRASSES.		VELVET BEANS		PASTURE GRASSES.		BANANAS		PINEAPPLES.	
NORTHERN DIVISION.	Condition	Prospective yield	Condition	Prospective yield	Condition	Prospective yield	Condition	Prospective yield	Condition	Prospective yield
Franklin	.....	.....	60	65	.....	.....	.....	.....	.....	.....
Hamilton	100	100	75	80	100	100	.....	.....	.....	.....
Jefferson	100	100	100	100	100	100	.....	.....	.....	.....
Lafayette	.....	.....	100	100	90	90	.....	.....	.....	.....
Leon	100	115	85	90	100	100	.....	.....	.....	.....
Liberty	85	90	85	80	100	100	.....	.....	.....	.....
Madison	40	40	25	25	30	20	.....	.....	.....	.....
Suwannee	100	100	80	80	.....	.....	.....	.....	.....	.....
Wakulla	95	95	60	65	90	90	.....	.....	.....	.....
Division average per cent.	89	91	74	75	87	87	.....	.....	.....	.....
WESTERN DIVISION.										
Calhoun	100	100	75	75	100	100	.....	.....	.....	.....
Escambia	120	125	100	120	100	120	.....	.....	.....	.....
Holmes	100	100	100	100	85	85	.....	.....	.....	.....
Jackson	100	100	90	90	90	95	.....	.....	.....	.....
Santa Rosa	100	100	85	90	100	100	.....	.....	.....	.....
Walton	80	90	60	80	80	90	.....	.....	.....	.....
Washington	80	85	70	75	80	90	.....	.....	.....	.....
Division average per cent.	97	100	83	90	91	97	.....	.....	.....	.....
NORTHEASTERN DIVISION.										
Alachua	90	90	75	65	90	90	.....	.....	.....	.....
Baker	100	100	100	100	100	100	.....	.....	.....	.....
Bradford	80	80	100	100	.....	.....	.....	.....	.....	.....

Clay	100	100	100	100	100	100	.....	.....	.....	....
Columbia	60	60	90	90	75	70	.....	.....	.....	....
Division average per cent	86	86	93	91	91	90	.....	.....	.....	....
CENTRAL DIVISION.										
Citrus	100	100	75	75	100	100	.....	.....	.....	....
Hernando	90	90	100	90	100	100	.....	.....	.....	....
Lake	90	90	80	85	95	90	75	75	.....	....
Levy	110	125	100	100	100	100	.....	.....	.....	....
Marion	100	100	80	80	100	100	.....	.....	.....	....
Orange	60	60	40	40	.....	.....	.....	.....	.....	....
Pasco	100	90	75	80	100	100	90	90	.....	....
Sumter	100	100	90	95	100	100	.....	.....	.....	....
Division average per cent	94	94	80	81	99	99	82	82	.....	....
SOUTHERN DIVISION.										
Brevard	100	100	.....	.....	100	100	75	75	100	100
Dade	100	125	100	100	100	100	95	100	100	105
DeSoto	125	125	100	100	.....	.....	.....	.....	100	100
Hillsboro	100	100	85	85	95	95	85	85	75	70
Lee	100	100	.....	.....	80	80	100	100	100	100
Manatee	100	80	100	100	100	100	100	100	100	100
Polk	90	85	60	50	80	90	50	55	50	75
St. Lucie	100	100	100	100	95	90	100	90	95	105
Division average per cent	102	102	91	89	93	94	87	87	90	95
State average per cent	94	95	84	85	92	93	84	84	90	95

CONDITION AND PROSPECTIVE YIELD OF CROPS—Continued.

COUNTIES.	GUAVAS.		ORANGE TREES		LEMON TREES.		LIME TREES.		GRAPEFRUIT TREES.	
NORTHERN DIVISION.	Condition	Prospective yield	Condition	Prospective yield	Condition	Prospective yield	Condition	prospective yield	Condition	Prospective yield
Franklin	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Hamilton	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Jefferson	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Lafayette	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Leon	.....	.....	85	25	.....	.....	.....	.....	90	15
Liberty	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Madison	.....	.....	60	40	.....	.....	.....	.....	.....	....
Suwannee	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Wakulla	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Division average per cent.	.....	.....	72	32	.....	.....	.....	.....	90	15
WESTERN DIVISION.										
Calhoun	.....	.....	100	85	.....	.....	.....	.....	100	100
Escambia	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Holmes	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Jackson	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Santa Rosa	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Walton	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Washington	.....	.....	.....	.....	.....	.....	.....	.....	.....	....
Division average per cent.	.....	.....	100	85	.....	.....	.....	.....	100	100
NORTHEASTERN DIVISION.										
Alachua	.....	.....	90	40	.....	.....	.....	.....	70	35
Baker	.....	.....	100	100	60	60	.....	.....	100	100
Bradford	.....	.....	.....	.....	.....	.....	.....	.....	.....	....

Gay	.....	.....	120	100	.....	.....	.....	.....	.....	.....
Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Division average per cent.	.....	.....	103	80	60	60	.....	.....	85	67
CENTRAL DIVISION.										
Citrus	.....	.....	100	100	100	100	100	100	100	100
Hernando	75	75	95	65	.....	.....	.....	.....	95	60
Lake	100	100	100	100	100	100	80	85	85	90
Levy	.....	.....	100	85	.....	.....	.....	.....	100	80
Marion	.....	.....	50	50	.....	.....	.....	.....	60	60
Orange	.....	.....	80	80	.....	.....	.....	.....	60	60
Pasco	40	25	95	100	.....	.....	.....	.....	95	100
Sumter	.....	.....	100	100	100	100	.....	.....	100	100
Division average per cent.	72	67	90	85	100	100	90	92	87	81
SOUTHERN DIVISION.										
Brevard	125	125	100	100	75	75	.....	.....	100	100
Dade	100	125	100	100	95	95	95	97	95	100
DeSoto	200	200	100	90	.....	.....	.....	.....	100	90
Hillsboro	95	100	100	90	95	80	95	85	100	90
Lee	100	100	100	100	90	90	90	90	100	100
Manatee	100	100	100	75	100	75	100	75	100	100
Polk	95	90	90	78	90	90	.....	.....	90	78
St. Lucie	95	90	85	75	75	75	100	100	85	85
Division average per cent.	114	116	97	85	89	83	96	89	96	93
State average per cent.	93	91	92	74	83	87	93	90	92	71

PART II.

Weather Report

U. S. Department of Agriculture.

CLIMATOLOGICAL SERVICE

of the

WEATHER BUREAU

Central Office: Washington, D. C.

FLORIDA SECTION,

A. J. Mitchell, Section Director.

Report for August, 1908

GENERAL SUMMARY.

The weather for the month, as a whole, was slightly cooler and drier than the normal, altho there were some stations that received much more than the usual amount of rain, the excessive amounts occurring, as a rule, during thunderstorms that prevailed over widely separated districts. The mean temperature for August has been below normal during eight of the last seventeen years, normal twice, and above normal on seven years. The precipitation has been below during thirteen years of the same period.

The month began with rather warm weather thruout the State. The highest temperatures occurred in Jackson, Marion, Orange, Polk. Washington, Hernando and St. Johns Counties, the maximum at the stations named ranging from 100 to 103 degrees. The most pronounced warm periods were generally from the 1st to 3d, and from the 17th to 21st, except in the western counties, where the warmest weather prevailed mostly from the 3d to 6th, and from the 14th to 21st. The coolest weather was recorded over most of the State during the last days of

the month. Every station in the southern district was cooler than the August normal; elsewhere, however, there was about an equal division between the plus and minus departures at the various stations.

The distribution of the month's rainfall was decidedly irregular. The greatest amounts, varying from eleven to eighteen inches, were recorded in DeSoto, Taylor, Hillsboro, and Levy Counties, and the least amounts in Nassau, Duval, Hamilton, Bradford, Columbia, Baker, Clay, and Holmes Counties. Showers occurred almost daily in the southern counties, and they were fairly frequent in the central district. The dates of rain in the northern district were mostly from the 7th to 11th, and from the 20th to 28th. Rain was not general in the western counties until the 21st, on which date showers began and continued until the 26th; thereafter fair weather ensued. There was no day without precipitation.

ATMOSPHERIC PRESSURE.

The mean atmospheric pressure for the month, reduced to sea level, and determined from observations taken daily at 7 a. m. and 7 p. m., 90th meridian time, at six Weather Bureau stations, was 30.01 inches, or 0.02 of an inch above the August normal. The highest pressure occurred at Jacksonville, 30.16 inches, on the 31st, and the lowest, 29.87 inches, occurred at Jacksonville, on the 19th, giving a range the State of 0.29 of an inch.

TEMPERATURE.

The mean temperature for August, 1908, determined from the records of 57 stations, was 81.1 degrees, which is 0.3 degree less than normal. The mean maximum and the mean minimum temperatures were 90.4 degrees and 71.9 degrees, respectively. The highest monthly mean was 83.0 degrees, at Clermont; the lowest monthly mean was 79.4 degrees, at Satsuma Heights. The highest temperature recorded was 103 degrees, at Marianna, on the 16th; the lowest temperature recorded was 61 degrees,

at Molino, on the 30th. The greatest monthly range at any station was 40 degrees, at Marianna; the least, 20 degrees, at Jupiter and Key West. The greatest daily range was 34 degrees, at Marianna.

PRECIPITATION.

The average precipitation for the State, as determined from the records of 56 stations, was 6.67 inches, which is 0.75 of an inch below the normal. The greatest amount recorded at any station for the month was 18.24 inches, at Arcadia; and the least, 1.11 inches, at Macclenny. Excessive rains (2.50 inches or more in 24 hours) occurred as follows: Apalachicola, 3.71 inches, on the 23d; Arcadia, 4.12 inches, on the 31st; Cedar Keys, 2.63 inches, on the 23d, and 5.48 inches, on the 26th; Fenholloway, 3.30 inches, on the 21st and 22d; Fort Meade, 2.50 inches, on the 12th; Orange City, 2.54 inches, on the 23d; Plant City, 4.60 inches, on the 24th; St. Augustine. 2.55 inches, on the 28th; Tallahassee, 3.75 inches, on the 23d; and Tarpon Springs, 2.70 inches, on the 26th and 27th. The average number of days on which 0.01 of an inch, or more, of precipitation occurred was 13.

SUNSHINE AND CLOUDINESS.

The percentages of the possible sunshine as recorded at the regular Weather Bureau stations, were as follows: Jacksonville, 66; Jupiter, 68; and Tampa, 75 per cent. For the State, there was an average of 12 clear days, 14 partly cloudy days, and 5 cloudy days.

WIND.

The prevailing direction of the wind for the State was southwest. The total movement at regular Weather Bureau stations was: Jacksonville, 7102 miles; Jupiter, 5802 miles; Key West, 4516 miles; Pensacola, 6268 miles; Sand Key, 7103 miles; and Tampa, 4947 miles. The highest wind velocities were: Jacksonville, 53 miles from the south, on the 20th; Jupiter, 36 miles from the east,

on the 14th; Key West, 40 miles from the west, on the 27th; Pensacola, 36 miles from the west, on the 22d; Sand Key, 47 miles from the east, on the 13th; and Tampa, 26 miles from the south, on the 26th. The average hourly velocities were: Jacksonville, 9.5 miles; Jupiter, 7.8; Key West, 6.1; Pensacola, 8.4; Sand Key, 9.5; and Tampa, 6.4 miles.

COMPARATIVE DATA FOR THE STATE—AUGUST.

Year	Temperature				Precipitation	
	Mean	Departure from the normal	Highest	Lowest	Average	Departure from the normal
1892	80.9	—0.5	101	67	7.84	+0.42
1893	81.5	+0.1	102	63	6.68	—0.74
1894	81.0	—0.4	97	65	7.33	—0.09
1895	81.3	—0.1	99	60	6.20	—1.22
1896.	82.0	+0.6	100	58	5.81	—1.61
1897.	81.6	+0.2	104	65	6.68	—0.74
1898.	80.8	—0.6	97	58	12.96	+5.54
1899.	82.2	+0.8	102	62	6.02	—1.40
1900	82.4	+1.0	104	64	4.20	—3.22
1901.	80.4	—1.0	99	64	10.58	+3.16
1902	82.1	+0.7	105	57	4.60	—2.82
1903	82.4	+1.0	102	65	6.86	—0.56
1904	80.1	—1.3	101	61	7.40	—0.02
1905	80.9	—0.5	102	59	11.24	+3.82
1906	81.4	0.0	100	62	7.20	—0.22
1907	81.4	0.0	101	62	5.97	—1.45
1908	81.1	—0.3	103	61	6.67	—0.75

CLIMATOLOGICAL DATA FOR AUGUST, 1908.

Stations.	Counties	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.			Prevailing direction of wind.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range	Total.	Departure from the normal.	Greatest in 24 hrs.	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.	
NORTHERN SECTION.																	
Archer	Alachua	92	25	81.2	—0.3	98	2*	65	29	27	5.08	—2.47	1.22	11	13	16	2	....
Cedar Keys	Levy	10	11	82.1	+0.6	94	15	69	29	22	15.80	+8.08	5.48	18	20	7	4	sw
Federal Point	Putnam	5	15	81.0	0.0	98	1*	67	9*	23	4.76	—2.62	1.82	15	16	9	6	nw
Fernandina	Nassau	10	11	80.6	—0.2	97	20	69	29	20	1.93	—3.98	0.58	10	20	6	5	se
Gainesville	Alachua	176	22	81.2	0.0	96	2*	67	13*	25	5.31	—2.41	0.89	14	....	....	....	....
Hilliard	Nassau	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Huntington	Putnam	56	11	82.0	+0.4	102	2	67	12*	29	7.20	—0.12	1.42	16	19	8	4	e
Jacksonville	Duval	43	36	80.4	+0.3	95	2	68	29	18	2.90	—3.31	0.91	12	11	13	7	sw
Jasper	Hamilton	152	10	80.8	—0.3	99	18	65	21*	30	2.15	—4.47	0.75	6	16	9	6	sw
Johnstown	Bradford	125	12	81.4	+0.2	c97	2*	67	5*	27	....	....	....	....	....	....	....	....
Lake City	Columbia	51	19	80.4	—0.9	97	2	65	29	27	2.55	—3.88	0.75	11	8	13	10	ne
Live Oak	Suwannee	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Macclenny	Baker	125	13	80.2	—2.0	97	19	62	31	29	1.11	—6.05	0.34	8	16	10	5	e-sw
Middleburg	Clay	10	8	e80.8	+0.2	e98	2	e65	31	27	2.36	—4.75	0.53	12	....	....	....	....
St. Augustine	St. Johns	10	58	80.6	0.0	95	1	68	13	24	8.56	+2.82	2.55	11	14	7	10	se
Satsuma Heights	Putnam	98	....	79.4	....	99	2	65	13*	27	3.91	.....	0.58	14	10	18	3	ne
Switzerland	St. Johns	10	11	a80.7	+0.5	a95	19*	a67	31	23	3.17	—3.10	1.06	12	....	....	....	....

CLIMATOLOGICAL DATA FOR AUGUST, 1908—Continued.

Stations.	Counties	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit							Precipitation, in inches.				Sky.			Prevailing direction of wind.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hrs.	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.	
Central Section.																		
Bartow	Polk	115	13	82.0	+0.1	100	1	67	12*	29	8.92	+0.88	2.63	23	6	18	7	se
Brooksville	Hernando	126	15	81.8	+1.00	101	2	67	28	29	7.89	—1.24	1.58	14	9	17	5	....
Clermont	Lake	105	15	83.0	+0.2	99	1	69	23	26	7.48	+0.23	1.62	12	3	27	1	sw
DeLand	Volusia	27	7	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Eustis	Lake	56	18	82.1	—0.1	99	2	66	14	26	5.73	—1.14	1.90	16	16	14	1	w
Fort Meade	Polk	125	24	80.9	—0.3	97	1*	66	13	27	9.83	+0.64	2.50	20	7	14	10	sw
Fort Pierce (near)	St. Lucie	6	17	82.0	+0.3	98	3	70	23	25	7.51	—1.02	1.62	12	12	12	7	se
Grasmere	Orange	175	11	....	....	....	....	67	12*	....	....	....	....	....	25	6	0	....
Inverness	Citrus	43	7	80.0	—0.7	96	1*	66	13*	27	7.73	+0.08	2.06	13	1	23	7	sw
Kissimmee	Osceola	65	16	81.1	—1.2	96	2	69	11	24	9.40	+2.35	1.47	16	7	22	2	sw
Malabar	Brevard	24	9	82.2	+0.2	99	8	68	23	27	8.57	+4.30	2.20	17	26	5	0	s
Merritts Island	Brevard	20	27	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
New Smyrna (near)	Volusia	9	20	80.8	+0.9	96	7	69	8*	26	6.10	+0.09	1.40	16	5	21	2	se
Ocala	Marion	98	21	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Orange City	Volusia	39	17	82.2	+0.2	100	1*	66	13	32	9.00	+1.88	2.54	16	12	18	1	sw
Orlando	Orange	111	18	a82.3	+0.2	a99	1*	a69	13*	25	7.04	—0.44	1.40	16	8	14	9	sw
Panasoffkee	Sumter	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....

Plant City	Hillsboro	121	16	81.2	0.0	97	1*	68	14*	27	13.92	+4.66	4.60	13	...	...	...	....
Rockledge	Brevard	...	...	79.7	.....	92	20	68	28*	21	3.43	.....	0.68	12	22	8	1	se
Rockwell	Marion	10	8	e82.9	+1.1	e100	3*	e66	31	26	5.31	—6.43	1.50	17	...	...	...	w
St. Leo	Pasco	140	13	81.1	—0.7	97	2	68	29	25	5.83	—4.69	1.98	17	4	22	5	w
Tampa	Hillsboro	20	18	81.2	+1.2	96	2	68	27	23	7.48	—1.11	2.19	20	7	17	7	nw
Tarpon Springs	Hillsboro	20	24	81.2	+0.1	96	15	69	14	25	7.76	—2.33	2.70	13	25	1	5	w
Titusville	Brevard	6	16	.....	.....	...	...	...	...	...	.....	.....	...	...	...	...	...	....
SOUTHERN SECTION.																			
Arcadia	DeSoto	...	...	81.0	.....	98	1	66	13	28	18.24	.....	4.12	24	11	17	3	sw
Avon Park	DeSoto	150	11	81.4	—0.5	96	1	67	13	25	7.32	—0.30	2.06	19	10	17	4	sw
Flamingo	Monroe	4	7	.....	.....	...	...	...	...	...	.....	.....	...	...	...	...	...	....
Hypoluxo	Dade	4	11	81.0	—0.2	92	8*	70	4*	20	5.33	+0.09	0.83	17	11	15	5	se
Jupiter	Dade	38	20	80.4	—1.1	90	20	70	26	18	9.20	+3.35	2.07	22	3	21	7	sw
Key West	Monroe	22	37	82.2	—1.6	91	25	71	28	19	7.74	+3.05	2.21	16	4	18	9	s
Manatee	Manatee	8	24	80.7	—0.5	94	2	66	13	24	7.40	—1.64	1.68	23	8	16	7	....
Miami	Dade	5	12	82.0	—0.4	95	10	69	3	24	7.76	+0.22	1.76	14	11	15	5	se
Myers	Lee	12	24	79.8	—1.5	92	2	68	13	19	9.14	..1.14	2.04	14	10	20	1	se
Sand Key	Monroe	25	4	82.2	—0.3	94	8	68	13	18	4.76	+2.14	0.92	16	3	22	6	se
WESTERN SECTION.																			
Apalachicola	Franklin	24	4	81.6	+0.1	93	3*	68	28*	18	9.83	+0.67	3.71	10	12	9	10	sw
Blountstown	Calhoun	...	...	b81.1	.....	b98	18	b64	10	26	6.17	.....	...	...	...	...	...	sw
Bonifay	Holmes	111	7	81.8	+0.1	98	15	65	11	26	2.20	—3.04	1.10	5	18	5	8	s
Carrabelle	Franklin	10	12	80.6	—0.6	95	6*	66	29	24	7.71	—1.01	2.46	8	17	5	9	....
DeFuniak Springs	Walton	193	11	k80.8	+0.4	k98	15*	k62	13	...	.....	.....	...	...	...	...	...	....
Fenholloway	Taylor	70	2	.....	.....	....	...	65	30	...	11.07	.....	3.30	9	0	25	6	sw
Madison	Madison	200	5	81.8	—0.6	100	3*	64	29	32	5.25	—2.19	2.16	9	4	17	10	w-se
Marianna	Jackson	80	8	d82.0	+1.1	d103	16	d63	11*	34	3.45	—2.95	1.40	6	...	...	...	....
Molino	Escambia	49	6	80.0	—0.8	96	14*	61	30	28	5.01	—2.96	2.10	6	23	7	1	s

Stations.	Counties.	Elevation, feet	Length of Record years.	Temperature, in degrees Fahrenheit							Precipitation, in inches				Sky			Prevailing direction of wind
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range	Total.	Departure from the normal.	Greatest in 24 hrs.	Number rainy days	Number clear day	Number partly cloudy days	Number clear days	
Monticello	Jefferson	207	3	80.4	+1.2	97	17*	64	29	26	6.25	—3.25	1.51	12	7	16	8	sw
Mount Pleasant	Gadsden	260	2	79.6	.....	95	18*	62	11	26	4.98	—0.52	1.50	8	...	...	...	....
Newport	Wakulla	...	..	79.6	—1.2	96	18	66	11*	24	7.79	—0.21	2.10	7	22	0	9	sw
Pensacola	Escambia	56	29	81.0	0.0	93	15	69	29	18	2.66	—3.50	1.81	6	13	9	9	sw
St. Andrew	Washington	14	10	81.1	—0.5	94	4*	66	11	24	6.92	—2.04	2.19	10	25	5	1	sw
Tallahassee	Leon	192	23	79.5	—0.2	94	18	64	29	20	8.44	+1.08	3.75	11	17	11	3	s
Wausau	Washington	250	10	82.5	—1.0	100	6*	62	28	30	3.40	—4.75	1.04	4	8	16	7	s

All records are used in determining State means but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

The letters a, b, c, etc., indicate number of days missing from report. *More than one day.

PART III.

Fertilizers,
Feeding Stuffs and
Foods and Drugs

REGULATIONS GOVERNING THE TAKING AND FORWARDING OF FERTILIZER OR COMMERCIAL FEEDING STUFF SAMPLES TO THE COMMISSIONER OF AGRICULTURE.

SECTION 15 OF THE LAWS.

Special samples of Fertilizers or Commercial Feeding Stuffs sent in by purchasers, under Section 9 of the laws, shall be drawn in the presence of two disiniterested witnesses, from one or more packages, thoroughly mixed and a FAIR SAMPLE OF THE SAME OF NOT LESS THAN EIGHT OUNCES (ONE-HALF POUND) SHALL BE PLACED IN A CAN OR BOTTLE, SEALED AND SENT BY A DISINTERESTED PARTY TO THE COMMISSIONER OF AGRICULTURE AT TALLAHASSEE. NOT LESS THAN EIGHT OUNCES, IN A TIN CAN OR BOTTLE, WILL BE ACCEPTED FOR ANALYSIS. This rule is adopted to secure fair samples of sufficient size to make the necessary determinations, and to allow the preservation of a duplicate sample in case of protest or appeal. This duplicate sample will be preserved for two months from date of certificate of analysis.

The State Chemist is not the proper officer to receive special samples from the purchaser. The propriety of the method of drawing and sending the samples as fixed by the law is obvious.

The drawing and sending of special samples in rare cases is in compliance with law. Samples are frequently sent in paper packages or paper boxes, badly packed, and frequently in very small quantity (less than ounce); frequently there are no marks, numbers or other means of identification; the postmark in some instances being absent.

I would call the attention of those who desire to avail themselves of this privilege to Sections 9 and 10 of the law, which are clear and explicit.

Hereafter strict compliance with above regulations will be required. *The sample must not be less than one-half pound, in a can or bottle, sealed and addressed to the Commissioner of Agriculture. The sender's name and address must also be on the package, this rule applying to special samples of fertilizers or commercial feeding stuff.*

INSTRUCTIONS TO MANUFACTURERS AND DEALERS.

Each package of Commercial Fertilizer, and each package of Commercial Feeding Stuff must have, securely attached thereto, a tag with the guaranteed analysis required by law, and the stamp showing the payment of the inspector's fee. This provision of the law—Section 3 of both laws—will be rigidly enforced.

Manufacturers and dealers will be required to properly tag and stamp each package of Commercial Fertilizer or Commercial Feeding Stuff under penalty as fixed in Section 6 ,of both laws. Tags shall be attached to the top end of each bag, or head of each barrel.

INSTRUCTIONS TO PURCHASERS.

Purchasers are cautioned to purchase no Commercial Fertilizers or Commercial Feeding Stuff that does not bear on *each package* an analysis tag with the guarantee required by law, and the stamp showing the payment of the inspector's fee. Goods not having the guarantee tag and stamp are irregular and fraudulent; the absence of the guarantee and stamp being evidence that the manufacturer or dealer has not complied with the law. Without the guarantee tag and stamp showing what the goods are guaranteed to contain, the purchaser has no recourse against the manufacturer or dealer. Such goods are sold illegally and fraudulently, and are generally of little value. All reputable manufacturers and dealers now comply strictly with the law and regulations by placing the guarantee tag and stamp on each package.

INSTRUCTIONS TO SHERIFFS.

The attention of Sheriffs of the various counties is called to Section 3 of both laws, defining their duties. This department expects each Sheriff to assist in maintaining the law and protecting the citizens of the State from the imposition of fraudulent, inferior or deficient Commercial Fertilizers or Commercial Feeding Stuffs.

B. E. McLIN,
Commissioner of Agriculture.

MARKET PRICES OF CHEMICALS AND FERTILIZING MATERIALS AT FLORIDA SEA PORTS, JANUARY, 1908.

Ammoniates.	Less than 5 tons.	5 to 10 tons.	10 tons & over.
Nitrate of Soda, 17 per cent. Ammonia	$60.00	$59.50	$59.00
Sulphate of Ammonia 25 per cent. Ammonia	74.00	73.50	73.00
Dried Blood 17 per cent. Ammonia	60.00	59.50	59.00
Dried Blood 15 per cent Ammonia	54.00	53.50	53.00
POTASH.			
High Grade Sulphate Potash 48 per cent. Potash (K2O).	50.00	49.50	49.00
Low Grade Sulphate Potash 26 per cent. Potash (K2O).	30.00	29.50	29.00
Muriate of Potash 50 per cent. Potash (K2O)	46.00	45.50	44.00
Carbonate of Potash, 60 per cent. Potash (K2O) (90 per cent. Carbonate of Potash)	110.00	——	——
Nitrate Potash, 13 Ams., 42 Potash (K2O)	84.00	83.50	83.00
Kainit 12 per cent. Potash	13.00	12.50	12.00
Canada Hardwood Ashes 4 per cent. (K2O) Potash	17.00	16.50	16.00
AMMONIA AND PHOSPHORIC ACID.			
High Grade Blood and Bone, 10 per cent Ammonia	40.00	39.50	39.00
Low Grade Blood and Bone, 6½ per cent. Ammonia, 8 per cent. Phosphoric Acid.	31.00	29.50	29.00
Raw Bone 4 per cent. Ammonia, 22 per cent. Phosphoric Acid	32.00	31.50	31.00

Ammoniates.	Less than 5 tons.	5 to 10 tons.	10 tons & over.
Ammonia and Phosphoric Acid.			
Ground Castor Pomace, 6 per cent. Ammonia, 2 per cent Phosphoric Acid.....	$25.00	$24.50	$24.00
Bright Cottonseed Meal, 8 per cent. Ammonia, market quotations	31.00	29.50	29.00
Dark Cotton Seed Meal, 6 per cent. Ammonia, market quotations	24.00	23.50	23.00
PHOSPHORIC ACID.			
High Grade Acid Phosphate, 16 per cent. Available Phosphoric Acid	15.00	14.50	14.50
Acid Phosphate 14 per cent. Available Phosphoric Acid.	14.00	13.50	13.00
Boneblack 17 per cent. Available Phosphoric Acid	24.00	23.50	23.00
Odorless Phosphate	25.00	24.50	24.00
MISCELLANEOUS.			
H. G. Ground Tobacco Stems, 3 per cent. Ammonia, 9 per cent. Potash	25.00	24.50	24.00
Pulverized Ground Tobacco Stems	16.00	15.50	15.00
Tobacco Dust, No. 1, 3 per cent. Ammonia, 10 per cent. (K2O) Potash	23.00	22.50	22.00
Tobacco Dust, No. 2, 1½ per cent. Ammonia, 1½ per cent Potash	19.00	18.50	18.00
Dark Tobacco Stems, baled..	15.00	14.50	14.00
Land Plaster in sacks.....	10.50	10.25	10.00

The charges by reputable manufacturers for mixing and bagging any special or regular formula are $1.50 per ton in excess of above prices.

STATE VALUATIONS.

For Available and Insoluble Phosphoric Acid, Ammonia and Potash for the Season of 1908.

Available Phosphoric Acid.....5 cents a pound
Insoluble Phosphoric Acid.....1 cent a pound
Ammonia (or its equivalent in nitrogen) 16½ cents a pound
Potash (as actual potash. K2O).....5½ cents a pound

If calculated by units—

Available Phosphoric Acid.....$1.00 per unit
Insoluble Phosphoric Acid.....20 c. per unit
Ammonia (or its equivalent in nitrogen)..$3.30 per unit
Potash .....$1.10 per unit

With a uniform allowance of $1.50 per ton for mixing and bagging.

A unit is twenty pounds, or 1 per cent, in a ton. We find this to be the easiest and quickest method for calculating the value of fertilizer. To illustrate this take for example, a fertilizer which analyzes as follows:

Available Phosphoric Acid	6.22 per cent. x	$1.00—	$ 6.22
Insoluble Phosphoric Acid	1.50 per cent. x	.20—	.30
Ammonia	3.42 per cent. x	3.30—	11.28
Potash	7.23 per cent. x	1.10—	7.95
Mixing and Bagging		—	1.50
Commercial value at sea ports			$27.25

Or a fertilizer analyzing as follows:

Available Phosphoric Acid	8 per cent. x	$1.00—	$ 8.00
Ammonia	2 per cent. x	3.30—	6.06
Potash	2 per cent. x	1.10—	2.20
Mixing and Bagging		—	1.50
Commercial value at sea ports			$18.30

The above valuations are for cash for materials delivered at Florida sea ports, and they can be bought in one ton lots at these prices at the date of issuing this Bulletin. Where fertilizers are bought at interior points, the additional freight to that point must be added.

If purchased in carload lots for cash, a reduction of ten per cent. can be made in above valuations, *i. e*:

Available Phosphoric Acid.....90 cents per unit
Potash (K2O) .....99 cents per unit
Ammonia (or equivalent in nitrogen).$2.97 per unit

The valuations and market prices in succeeding illustrations, are based on market prices for one ton lots.

STATE VALUES.

It is not intended by the "State valuation" to fix the price or commerial value of a given brand. The "State values" are the market prices for the various approved chemicals and materials used in mixing or manufacturing commercial fertiliers or commercial stock feed at the date of issuing a buletin, or the opening of the *"season."* They may, but seldom do, vary from the market prices, and are made liberal to meet any slight advance or decline.

They are compiled from price lists and commercial reports by reputable dealers and journals.

The question is frequently asked: "What is 'Smith's Fruit and Vine' worth per ton?" Such a question cannot be answered categorically. By analysis, the ammonia, available phosphoric acid, and potash may be determined, and the inquirer informed what the cost of the necessary material to compound a ton of goods similar to "Smith's Fruit and Vine" would be, using none but accepted and well known materials of the best quality.

State values do not consider "trade secrets," loss on bad bills, cost of advertisements, and expenses of collections. The "State value" is simply that price at which the various ingredients necessary to use in compounding a fertilizer, or feed, can be *purchased for cash in ton lots at Florida sea ports.*

These price lists in one, five and ten lots, are published in this report, with the "State values" for 1908 deducted therefrom.

COMPOSITION OF FERTILIZER MATERIALS.

NITROGENOUS MATERIALS.

	POUNDS PER HUNDRED		
	Ammonia	Phosphoric Acid	Potash
Nitrate of Soda	17 to 19	.....	.....
Sulphate of Ammonia	21 to 24	.....	.....
Dried Blood	12 to 17	.....	.....
Concentrated Tankage	12 to 15	1 to 2	.....
Bone Tankage	6 to 9	10 to 15	.....
Dried Fish Scrap	8 to 11	6 to 8	.....
Cotton Seed Meal	7 to 10	2 to 3	1½ to 2
Hoof Meal	13 to 17	1½ to 2	.....

PHOSPHATE MATERIALS.

	POUNDS PER HUNDRED		
	Ammonia	Available Phos. Acid	Insoluble Phosphoric Acid
Florida Pebble Phosphate	.....	.....	26 to 32
Florida Rock Phosphate	.....	.....	33 to 35
Florida Super Phosphate	.....	14 to 19	1 to 35
Ground Bone	3 to 6	5 to 8	15 to 17
Steamed Bone	3 to 4	6 to 9	10 to 20
Dissolved Bone	2 to 4	13 to 15	2 to 3

POTASH MATERIALS AND FARM MANURES.

	POUNDS PER HUNDRED			
	Actual Potash	Ammonia	Phosphoric Acid	Lime
Muriate of Potash	50	.....	.....	.....
Sulphate of Potash	48 to 52	.....	.....	.....
Carbonate of Potash	55 to 80	.....	.....	.....
Nitrate of Potash	40 to 44	12 to 16	.....	.....
Double Sul. of Pot. & Mag	26 to 30	.....	.....	.....
Kainit	12 to 12½	.....	.....	.....
Sylvinit	16 to 20	.....	.....	.....
Cotton Seed Hull Ashes	15 to 30	.....	7 to 9	10
Wood Ashes, unleached	2 to 8	.....	1 to 2	.....
Wood Ashes, leached	1 to 2	.....	1 to 1½	35 to 40
Tobacco Stems	5 to 8	2 to 4	.....	3½
Cow Manure (fresh)	0.40	0 to 41	0.16	0.31
Horse Manure (fresh)	0.53	0 to 60	0.28	0.31
Sheep Manure (fresh)	0.67	1.00	0.23	0.33
Hog Manure (fresh)	0.60	0.55	0.19	0.08
Hen Dung (fresh)	0.85	2.07	1.54	0.24
Mixed Stable Manure	0.63	0.76	0.26	0.70

FACTORS FOR CONVERSION.

To convert—	
Ammonia into nitrogen, multiply by	0.824
Ammonia into protein by	5.15
Nitrogen into ammonia, multiply by	1.214
Nitrate of soda into nitrogen, multiply by	16.47
Nitrogen into protein, by	6.25
Bone phosphate into phosphoric acid, multiply by	0.458
Phosphoric acid into bone phosphate, multiply by	2.184
Muriate of potash into actual potash, multiply by	0.632
Actual potash into muriate of potash, multiply by	1.583
Sulphate of potash into actual potash, multiply by	0.541
Actual potash into sulphate of potash, multiply by	1.85
Nitrate of potash into nitrogen, multiply by	0.139
Carbonate of potash into actual potash, multiply by	0.681
Actual potash into carbonate of potash, multiply by	1.466
Chlorine, in "kainit," multiply potash (K2O) by	2.33

For instance, you buy 95 per cent. of nitrate of soda and want o know how much nitrogen is in it, multiply 95 per cent. by 16.47 you will get 15.65 per cent. nitrogen; you want to know how much ammonia this nitrogen is equivalent to, then multiply 15.65 per cent. by 1.214 and you get 18.99 per cent., the equivalent in ammonia.

Or to convert 90 per cent. carbonate of potash into actual potash (K2O), multiply 90 by 0.681, equals 61.29 per cent. actual potash (K2O).

COPIES OF THE FERTILIZER AND STOCKFEED LAWS.

Citizens interested in the fertilizer and stock feed laws of the State, and desiring to avail themselves of their protection, can obtain copies free of charge by sending for same to the Commissioner of Agriculture.

COPIES OF THE PURE FOOD AND DRUG LAW.

Copies of the Pure Food and Drug Law, rules and regulations, standards, blanks, etc., can be obtained from the Commissioner of Agriculture.

SPECIAL SAMPLES.

It is shown by the number of "Special Samples" (those sent in direct by the purchaser of fetilizers or feeds) that the law is becoming more generally understood by the farmer, fruit and vegetable grower. Purchasers who have any reason to doubt the correctness of the guarantee on the goods furnished them, should not hesitate to send in samples for an analysis.

This right to have a sample of the goods purchased analyzed by the State Chemist, under Section 9 of the law—without charge—the inspection fees covering the cost of analysis, as well as inspection—has doubtless had a direct influence upon the increased quality of the goods sold in the State. When properly drawn, sealed, witnessed and trainsmitted, the "Special Sample" has proved a safeguard to the consumer, legitimate dealer, and manufacturer, and a check upon the careless, ignorant, or fraudulent vendor or manufacturer.

It furnishes the consumer with the same protection demanded by the manufacturer, who buys his materials only upon the guarantee, and pays for them according to analysis.

By far the largest amount of commercial fertilizers used in Florida are manufactured or mixed by factories in the State. Large amounts of fertilizing materials are imported direct by factories and dealers located at our sea port cities; cargoes of potash salts direct from Germany are now frequently received by Florida importers, while large amounts of acid phosphate are manufactured at and exported from the various Gulf and Atlantic ports.

Florida consumers may now purchase their fertilizers and chemicals at Florida seaports as cheaply as at any of the seaports of the country.

Tables of the average composition of feeds and fertilizer materials will be found in this bulletin. The consumer should consult them, compare the guarantee tag therewith, and if doubtful of the truthfulness of the "guarantee," send a "Special Sample" in a tin can to the Commissioner of Agriculture for analysis, as directed in regulations governing the taking and sending of special samples—on another page.

AVERAGE COMPOSITION OF COMMERCIAL FEEDSTUFFS.

NAME OF FEED	Crude Fiber.	Protein.	Starch and Sugar.	Fat.	Ash.
Bright Cotton Seed Meal	7.05	38.83	27.57	9.22	6.60
Dark Cotton Seed Meal	.....	21.43	36.56	5.45	.....
Linseed Meal	8.76	34.70	35.91	5.34	6.12
Wheat Bran	8.39	15.10	57.28	3.65	5.33
Middlings	6.36	17.23	56.70	4.42	4.30
Mixed Feed (wheat)..	7.80	16.86	54.44	4.79	5.30
Corn Meal	1.64	8.73	71.32	3.14	1.20
Corn (grain)	2.10	10.50	69.60	5.40	1.50
Corn Cobs	30.10	2.40	54.90	0.50	1.40
Corn and Cob Meal....	6.60	8.50	64.80	3.50	1.50
Corn & Oats, eq'l p'ts..	5.80	9.60	66.10	4.40	2.20
Wheat	1.80	11.90	71.99	2.10	1.80
Oats	9.50	11.80	59.70	5.00	3.09
Soja Beans	4.80	34.00	28.00	16.50	5.40
Velvet Beans & Hulls..	9.20	19.70	51.30	4.50	3.30
Rice Hulls	35.70	3.60	38.60	0.70	13.20
Gluten Meal	1.25	37.06	46.52	3.27	0.68
Gluten Feed	7.31	24.17	54.30	3.44	1.80

AVERAGE COMPOSITION OF COMMERCIAL FEEDSTUFFS—(*Continued.*)

NAME OF FEED.	Crude Fiber.	Protein.	Starch and Sugar.	Fat.	Ash.
Hominy Feed	4.05	10.49	65.27	7.85	2.54
Rye Products (bran)..	4.53	15.57	61.28	3.02	3.80
Barley Sprouts	10.94	27.20	42.66	1.56	6.34
Distillers' Grains	12.90	32.23	33.34	12.09	1.86
Oat Feed	20.57	7.91	54.58	3.26	5.34
Provender	3.91	10.62	67.34	4.03	1.83
Ship Stuff	.....	16.30	58.14	4.28	.....
Victor Feed	10.63	8.83	62.46	4.02	3.64
XXX Corn & Oat Feeds	9.94	9.66	64.66	5.09	3.24
Corn & Oat Feeds.....	12.09	8.73	61.73	3.73	3.22
Proprietary Horse F'ds	9.57	12.48	60.54	4.27	2.83
Molasses Feeds	8.49	16.34	51.72	1.79	6.18
Poultry Feeds	4.62	15.89	60.27	5.32	27.63
Beef Scrap	.....	44.70	3.28	14.75	29.20
Quaker Dairy Feed....	15.53	14.42	52.12	4.05	5.31
Creamery Feed	10.07	20.06	51.00	5.38	3.57
Purina Feed	12.60	15.10	56.50	4.10	4.65

COMMERCIAL STATE VALUES OF FEED-STUFF 1908.

For the season of 1908, the following "State values" are fixed as a guide to purchasers.

These values are based on the current price of corn, which has been chosen as a standard in fixing the commercial values; the price of corn ,to a large extent, governing the price of other feeds, pork, beef, etc.:

COMMERCIAL STATE VALUES OF FEEDSTUFFS FOR 1908.

Protein, 3¼ cents per pound.....65 cents per unit
Starch and Sugar, 1½ cents per pound..30 cents per unit
Fats, 3¼ cents per pound.....65 cents per unit

A unit being 20 pounds (1 per cent) of a ton.

Indian corn being the standard @ $30.00 per ton.

To find the commercial State value, multiply the percentages by the price per unit.

EXAMPLE No. 1

HOMINY FEED—

Protein	10.49 x 65c,	$ 6.81
Starch and Sugar	65.27 x 30c,	19.58
Fats	7.85 x 65c,	5.10
State value per ton		$31.49

EXAMPLE No. 2.

CORN AND OAT FEED—

Protein	9.66 x 65c,	$ 6.27
Starch and Sugar	62.46 x 30c,	18.73
Fats	5.09 x 65c	3.30
State value per ton		$28.30

R. E. ROSE,
State Chemist.

BUREAU OF FERTILIZERS.

R. E. ROSS, State Chemist. L. HEIMBURGER, Assistant Chemist.

Analyses of Special Samples under Sec. 9, Act approved May 22, 1901.

(Samples taken by purchaser.)

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K2O.)	BY WHOM SENT.
			Available.	Insoluble.	Total.			
Fertilizer No. 1	1535	....	12.06	1.65	13.71	1.66	1.53	W. P. Johnson, Cobb, Fla.
Fertilizer No. 2	1536	....	11.14	1.28	12.42	1.97	1.59	W. P. Johnson, Cobb, Fla.
Fertilizer No. 3	1537	....	9.50	2.07	11.57	1.59	3.99	W. P. Johnson, Cobb, Fla.
Fertilizer No. 4	1538	....	10.76	1.24	12.00	2.03	2.09	W. P. Johnson, Cobb, Fla.
Fertilizer	1539	8.39	6.34	0.07	6.41	4.24	12.72	W. S. Ryall, Auburndale, Fla.
Fertilizer	1540	....	9.26	2.41	11.67	2.85	12.74	O. C. Parker, Tallahassee, Fla.
Fertilizer	1541	16.74	10.84	0.25	11.09	1.46	2.37	J. W. Henderson, Luanna, Fla.
Cotton Seed Meal No. 1	1542	....	....	....	....	7.55	....	E. B. Shelfer Co., Quincy, Fla.
Cotton Seed Meal No. 2	1543	....	....	....	....	7.67	....	E. B. Shelfer Co., Quincy, Fla.
Steamed Bone No. 1	1544	....	....	....	24.79	2.94	....	H. A. Perry, Pomona, Fla.
Steamed Bone No. 2	1545	....	....	....	26.93	2.75	....	H. A. Perry, Pomona, Fla.
Fertilizer	1546	6.47	7.16	1.60	8.76	3.66	6.24	H. A. Perry, Pomona, Fla.
H. G. Blood & Bone, "Sinclair Product"	1547	6.58	....	....	10.96	10.25	....	American Agricultural Chemical Co., Jacksonville, Fla.
Marked Double Super Phosphate	1548	....	42.73	.23	42.96	....	....	E. E. Thompson, Avon Park, Fla.

ANALYSES OF SPECIAL SAMPLES—*Continued.*

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O.)	BY WHOM SENT.
			Available.	Insoluble.	Total.			
Fertilizer	1549	....	7.53	.22	7.75	4.00	4.56	Philip Fisher, Lakeland, Fla.
Cotton Seed Meal	1550	....	....	....	....	7.62	....	Judson D. Clark, Mt. Pleasant, Fla.
Fertilizer	1551	8.42	3.82	.74	4.56	5.44	8.30	J. B. Galloway, Kathleen, Fla.
Fertilizer	1552	13.76	10.52	1.51	12.03	2.82	2.37	A. W. McCullough, Glendale, Fla.
Fertilizer No. 1	1553	16.27	10.20	1.77	11.97	3.53	2.89	E. L. Murphy, Milton, Fla.
Fertilizer No. 2	1554	14.15	8.96	1.90	10.86	2.10	1.45	E. L. Murphy, Milton, Fla.
Fertilizer (Bone Mixture)	1555	4.52	....	....	14.32	3.99	1.26	John Parish, Parish, Fla.
Tankage	1556	....	....	....	5.53	9.37	....	Jacksonville Fer. Co., Jacksonville, Fla.
Acid Phosphate	1557	....	15.32	3.53	18.85	....	....	Jacksonville Fer. Co., Jacksonville, Fla.
Fertilizer	1558	....	8.58	1.82	10.40	2.16	1.28	John McCullough, DeFuniak Spgs., Fla.
Fertilizer	1559	4.68	3.08	9.33	12.41	4.07	6.44	E. F. Sperry, Orlando, Fla.
Fertilizer No. 3535	1560	5.96	5.18	4.04	9.22	7.06	6.50	Sanders Fert. Co., Jacksonville, Fla.
Fertilizer	1561	3.05	17.34	2.18	19.52	2.74	0.14	H. A. Perry, Pomona, Fla.
Fertilizer	1562	19.23	9.86	1.62	11.48	1.57	1.42	G. C. Johnson, Cobb, Fla.
Cotton Seed Meal	1563	....	....	....	....	6.55	....	W. D. Griffin, Stuart, Fla.
Kainit	1564	....	....	....	....	....	12.71	M. R. Senterfitt, Holt, Fla.
Fertilizer No. 1 (Ground Meat Pulp)	1565	....	11.37	6.57	17.94	6.94	....	L. R. Woods, Tampa, Fla.
Fertilizer No. 2 (Tankage)	1566	....	3.96	1.56	5.52	12.08	....	L. R. Woods, Tampa, Fla.
Acid Phosphate 14 per cent.	1567	7.95	14.74	.08	14.82	....	....	American Agricultural Chemical Co., Jacksonville, Fla.

Acid Phosphate 16 per cent....	1568	8.92	16.71	.24	16.95	....	....	American Agricultural Chemical Co., Jacksonville, Fla.
Fertilizer ("Gold Medal")....	1569	....	5.76	1.86	7.62	6.12	2.71	E. McDonald, Socrum, Fla.
Fertilizer ("Grand Republic")	1570	....	4.93	.28	5.21	1.93	13.57	E. McDonald, Socrum, Fla.
Fertilizer	1571	7.17	6.15	1.85	8.00	2.74	10.68	J. A. Saunders, Ozona, Fla.
Fertilizer (Steamed Bone and Meal)	1572	....	....	....	29.10	2.98	....	Robert Rhoden, Stuart, Fla.
Dark Cotton Seed Meal.....	1573	....	....	....	....	7.51	....	J. M. Holding, Dania, Fla.
Fertilizer	1574	5.60	....	....	9.52	6.70	7.71	J. G. May, Ft. Pierce, Fla.
Fertilizer	1575	8.54	8.33	0.22	8.59	4.19	10.14	C. W. Stevens, Tampa, Fla.
Bright Cotton Seed Meal.....	1576	....	....	....	....	7.71	....	J. M. Holding, Dania, Fla.
Cotton Seed Meal.....	1577	....	....	....	....	7.42	....	E. O. Painter Fert. Co., Jacksonville, Fla.
Wood Ashes No. 1.....	1578	....	....	....	....	....	0.47	Chase & Co., Sanford, Fla.
Wood Ashes No. 2.....	1579	....	....	....	....	....	0.08	Chase & Co., Sanford, Fla.
Wood Ashes No. 3.....	1580	....	....	....	....	....	0.05	Chase & Co., Sanford, Fla.
Wood Ashes No. 4.....	1581	....	....	....	....	....	3.10	Chase & Co., Sanford, Fla.
Wood Ashes No. 5.....	1582	....	....	....	....	....	0.60	Chase & Co., Sanford, Fla.
H. G. Sulphate Potash.....	1583	....	....	....	....	....	48.56	A. McRae, Monticello, Fla.
Nitrate of Soda.....	1584	....	....	....	....	16.36	....	P. Barnhill, Pine Level, Fla.
Fertilizer (Pineapple Mixture).	1585	6.85	....	....	1.95	5.50	7.25	C. B. Bixley, Ft. Pierce, Fla.
Fertilizer No. 1.....	1586	6.49	....	....	7.35	7.29	3.18	N. H. Parks, Stuart, Fla.
Fertilizer No. 2.....	1587	6.47	....	....	6.13	6.90	4.39	N. H. Parks, Stuart, Fla.
Hardwood Ashes	1588	....	....	....	....	....	1.69	Jacksonville Fert. Co., Jacksonville, Fla.
H. G. Acid Phosphate.....	1589	....	16.58	2.58	19.16	....	....	Sanders Fert. Co., Jacksonville, Fla.
H. G. Tankage.....	1590	....	....	....	3.76	10.78	....	Sanders Fert. Co., Jacksonville, Fla.
Fertilizer	1591	16.58	10.49	2.12	12.61	1.66	1.41	W. P. Johnson, Cobb, Fla.
Cotton Seed Meal.....	1592	....	....	....	....	7.80	....	E.O. Painter Fert.Co., Jacksonville, Fla.
Fertilizer (Guano)	1593	....	12.81	2.24	15.05	19.52	1.28	T. H. Bell, Dunnedin, Fla.
Fertilizer	1594	9.13	....	....	6.11	5.72	5.56	C. P. Olmstead, Ft. Pierce Fla.
Fertilizer	1595	17.70	9.96	1.20	11.16	....	3.28	J. H. Stephens, Marianna, Fla.

ANALYSES OF SPECIAL SAMPLES—*Continued.*

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O.)	BY WHOM SENT.
			Available.	Insoluble.	Total.			
Fertilizer No. 1 (Pineapple Mixture)	1596	10.48	....	....	2.15	5.06	3.96	Mrs. M. E. Goldsmith, Ft. Pierce, Fla.
Fertilizer No. 2 (Pineapple Mixture)	1597	9.64	....	....	1.94	5.11	4.01	Mrs. M. E. Goldsmith, Ft. Pierce, Fla.
Tankage No.	1598	....	....	....	7.27	7.88	....	J. Ed. Raulerson, Lilly, Fla.
Fertilizer No. 2	1599	6.87	6.32	5.86	12.18	4.58	8.69	J. Ed. Raulerson, Lilly, Fla.
Fertilizer (H. G.)	1600	9.34	4.47	0.51	4.98	0.58	8.51	A. Anderson, Lakeland, Fla.
H. G. Acid Phosphate	1601	....	19.22	1.40	20.62	....	....	A. Anderson, Lakeland, Fla.
H. G. Sulphate Potash	1602	....	....	....	....	....	47.40	A. Anderson, Lakeland, Fla.
Dried Blood	1603	....	....	....	....	17.25	....	H. S. Thomas, Eldred, Fla.
Fertilizer	1604	10.42	9.40	2.56	11.96	2.40	1.63	R. W. Storrs, DeFuniak Springs, Fla.
Cotton Seed Meal	1605	....	....	....	....	3.30	....	W. J. McPhail, DeFuniak Springs, Fla.

DEPARTMENT OF AGRICULTURE--DIVISION OF CHEMISTRY.

R. E. ROSE, State Chemist. ANALYSES OF FERTILIZERS, 1908. L. HEIMBURGER, Assistant Chemist.

Samples taken by State Chemist, under Section 1, Act approved May 2, 1901.

NAME, OR BRAND.	Laboratory Number.		Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
Bradley Orange Tree.....	1172	Guaranteed Analysis.	10.00	6.00	1.00	.....	3.50	5.00	Am. Agricul. Chemical Co., Jacksonville, Fla.
		Official Analysis.....	6.28	7.48	1.50	8.98	3.50	5.43	
Bradley Florida Vegetable	1173	Guaranteed Analysis.	10.00	6.00	1.00	.....	4.00	5.00	Am. Agricul. Chemical Co., Jacksonville, Fla.
		Official Analysis.....	9.37	7.65	1.28	8.93	3.85	5.08	
Bradley Fruit and Vine..	1174	Guaranteed Analysis.	10.00	5.50	2.00	.....	2.25	10.00	Am. Agricul. Chemical Co., Jacksonville, Fla.
		Official Analysis.....	6.26	6.48	1.07	7.55	2.26	10.86	
Bradley Nursery Stock...	1175	Guaranteed Analysis.	10.00	3.00	1.00	.....	4.50	3.00	Am. Agricul. Chemical Co., Jacksonville, Fla.
		Official Analysis.....	7.63	3.93	1.24	10.17	4.68	3.94	
Mapes' Fruit and Vine Manure	1176	Guaranteed Analysis.	10.00	5.00	2.00	.....	2.00	10.00	Mapes Formula & Peruvian Guano Co., New York
		Official Analysis.....	9.49	5.29	2.64	7.93	2.82	11.21	
Mapes' Orange Tree Manure	1177	Guaranteed Analysis.	12.00	6.00	2.00	.....	4.00	3.00	Mapes Formula & Peruvian Guano Co., New York
		Official Analysis.....	11.26	5.89	3.74	9.93	4.63	3.55	

NAME, OR BRAND.	Laboratory Number.		Moisture.	Phosphoric Acid. Available.	Insoluble.	Total.	Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
Williams & Clark Fruit and Vine	1178	Guaranteed Analysis.	10.60	5.50	3.00	.....	2.25	10.00	Am. Agricul. Chemical Co., Jacksonville, Fla.
		Official Analysis.....	6.86	6.73	0.94	7.67	2.57	10.41	
Williams & Clark Florida Vegetable	1179	Guaranteed Analysis.	10.00	6.00	1.00	.....	4.00	5.00	Am. Agricul. Chemical Co., Jacksonville, Fla.
		Official Analysis.....	10.84	9.58	0.83	10.41	3.29	5.47	
Ideal Vegetable Manure	1180	Guaranteed Analysis.	8.00	6.00	1.00	.....	4.00	8.00	Wilson & Toomer Fert. Co., Jacksonville, Fla.
		Official Analysis.....	10.94	6.88	1.62	8.50	3.93	7.31	
Kainit	1181	Guaranteed Analysis.	.....	.....	.....	.....	.....	12.50	Va.-Carolina Chemical Co., Savannah, Ga.
		Official Analysis.....	.....	.....	.....	.....	.....	12.60	
Nitrate of Soda	1182	Guaranteed Analysis.	.....	.....	.....	.....	16.00	.....	Armour Fertilizer Works, Jacksonville, Fla.
		Official Analysis.....	.....	.....	.....	.....	15.88	.....	
Formula No. 44	1183	Guaranteed Analysis.	8.00	7.00	1.00	.....	3.10	3.20	Va.-Carolina Chemical Co., Savannah, Ga.
		Official Analysis.....	9.32	7.59	2.22	9.81	3.26	3.26	
Armour's Vegetable Fertilizer	1184	Guaranteed Analysis.	10.00	7.00	2.00	.....	4.00	6.00	Armour Fertilizer Works, Jacksonville, Fla.
		Official Analysis.....	8.56	7.56	2.31	9.87	3.76	5.39	

A. L. Wilson Co.'s Ammoniated Guano	1185	Guaranteed Analysis	16.00	8.00	2.00	.....	2.00	2.00	Goulding Fertilizer Co.,
		Official Analysis	12.39	9.95	1.70	11.65	1.98	2.00	Pensacola, Fla.
Vegetable Guano	1186	Guaranteed Analysis	5.00	.....	.....	11.45	4.00	5.25	Germofert Manufact'ng Co
		Official Analysis	9.19	.....	.....	13.89	3.65	5.97	Charleston, S. C.
H. G. Vegetable Fertilizer	1187	Guaranteed Analysis	10.00	5.00	2.00	.....	4.00	6.00	Tampa Fertilizer Co.,
		Official Analysis	15.40	5.12	2.46	7.58	2.92	6.94	Tampa, Fla.
H. G. Vegetable Fertilizer	1188	Guaranteed Analysis	.....	.....	.....	.....	.....	.....	E. O. Painter Fertilizer Co.,
		Official Analysis	.....	.....	.....	.....	7.33	.....	Jacksonville, Fla.
H. G. Vegetable Fertilizer	1189	Guaranteed Analysis	.....	.....	.....	.....	.....	.....	E. O. Painter Fertilizer Co.,
		Official Analysis	.....	.....	.....	.....	7.75	.....	Jacksonville, Fla.
H. G. Ground Ky. Tobacco Stems	1190	Guaranteed Analysis	.....	.....	.....	.....	2.50	10.00	E. O. Painter Fertilizer Co.,
		Official Analysis	.....	.....	.....	.....	2.32	9.42	Jacksonville, Fla.
Pulverized Steamed Bone	1191	Guaranteed Analysis	3.00	.....	.....	22.00	3.00	.....	E. O. Painter Fertilizer Co.,
		Official Analysis	.....	.....	.....	23.29	2.99	.....	Jacksonville, Fla.
Gem Pineapple Manure	1192	Guaranteed Analysis	10.00	.....	.....	2.50	5.00	6.00	E. O. Painter Fertilizer Co.,
		Official Analysis	7.01	.....	.....	1.85	5.52	6.92	Jacksonville Fla.
Nitrate of Soda	1193	Guaranteed Analysis	3.00	.....	.....	.....	17.00	.....	Wilson & Toomer Fert. Co.,
		Official Analysis	.....	.....	.....	.....	18.66	.....	Jacksonville, Fla.
Ky. H. G. Tobacco Steams	1194	Guaranteed Analysis	5.00	.....	.....	.....	2.75	8.75	Wilson & Toomer Fert. Co.,
		Official Analysis	.....	.....	.....	.....	2.35	9.89	Jacksonville, Fla.
H. G. V. C. Champion Citrus Compound	1195	Guaranteed Analysis	10.00	6.00	1.00	.....	3.00	14.00	Va.-Carolina Chemical Co.,
		Official Analysis	5.16	5.58	1.83	7.41	3.60	15.16	Savannah, Ga.

NAME OR BRAND.	Laboratory Number.		Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
H. G. V. C. Fruit and Vine.	1196	Guaranteed Analysis.	8.00	6.00	1.00	.....	2.50	10.00	Va.-Carolina Chemical Co., Savannah, Ga.
		Official Analysis....	4.87	7.06	1.09	8.15	3.68	11.15	
H. G. V. C. Tip Top Tomato Trucker.....	1197	Guaranteed Analysis.	8.00	7.00	1.00	.....	4.00	5.00	Va.-Carolina Chemical Co., Savannah, Ga.
		Official Analysis....	4.66	8.61	0.49	9.10	5.21	4.61	
Simon Pure No. 2.....	1198	Guaranteed Analysis.	8.00	6.00	2.00	.....	4.00	6.00	E. O. Painter Fert. Co., Jacksonville, Fla.
		Official Analysis....	7.25	7.32	2.48	9.80	5.47	6.88	
Gem Sweet Potato No. 1..	1199	Guaranteed Analysis.	.....	.....	.....	.....	4.00	6.50	E. O. Painter Fert. Co., Jacksonville, Fla.
		Official Analysis....	6.50	5.34	0.07	5.41	4.20	7.72	
Mapes' Fruit and Vine Manure	1200	Guaranteed Analysis.	10.00	5.00	2.00	.....	2.00	10.00	Mapes Formula & Peruvian Guano Co., New York
		Official Analysis.....	10.16	5.94	2.17	8.11	2.25	11.83	
Mapes' Vegetable Manure..	1201	Guaranteed Analysis.	12.00	6.00	2.00	.....	5.00	4.00	Mapes Formula & Peruvian Guano Co., New York
		Official Analysis....	12.61	6.29	3.03	9.32	5.30	5.22	
Williams & Clark Orange Tree	1202	Guaranteed Analysis.	10.00	6.00	1.00	.....	3.50	5.00	Am. Agricul. Chemical Co., Jacksonville, Fla.
		Official Analysis....	7.27	7.48	0.99	8.47	3.69	5.99	

Amour's Sugar Cane.....	1203	Guaranteed Analysis.	10.00	6.00	1.00	.....	5.00	8.00	Armour Fertilizer Works,
		Official Analysis....	6.59	6.82	1.46	8.28	4.63	8.90	Jacksonville, Fla.
Armour's Strawberry Fruiter	1204	Guaranteed Analysis.	10.00	5.00	2.00	.....	2.00	10.00	Armour Fertilizer Works,
		Official Analysis....	5.78	5.76	0.74	6.50	2.60	8.63	Jacksonville, Fla.
Armour's Fruit and Vine..	1205	Guaranteed Analysis.	10.00	6.00	1.00	.....	2.50	11.00	Armour Fertilizer Works,
		Official Analysis....	8.15	6.73	1.14	7.87	2.66	8.92	Jacksonville, Fla.
Acid Phosphate 14 per cent	1206	Guaranteed Analysis.	10.00	14.00	1.00	.....	.....	.....	Armour Fertilizer Works,
		Official Analysis....	12.46	13.69	0.42	14.11	.....	.....	Jacksonville, Fla.
Armour's Vegetable	1207	Guaranteed Analysis.	10.00	7.00	2.00	.....	4.00	6.00	Armour Fertilizer Works,
		Official Analysis....	9.02	7.16	1.25	8.41	3.69	6.07	Jacksonville, Fla.
Armour's Blood, Bone and Potash	1208	Guaranteed Analysis.	10.00	8.00	1.00	.....	5.00	7.00	Armour Fertilizer Works,
		Official Analysis....	9.91	8.37	1.85	10.22	4.89	7.37	Jacksonville, Fla.
Armour's Watermellon Special	1209	Guaranteed Analysis.	10.00	5.00	1.00	.....	3.00	8.00	Armour Fertilizer Works,
		Official Analysis....	5.64	5.65	0.88	6.53	3.14	8.53	Jacksonville, Fla.
Armour's Irish Potato Special	1210	Guaranteed Analysis.	10.00	5.00	1.00	.....	3.50	8.50	Armour Fertilizer Works,
		Official Analysis....	4.62	6.05	1.31	7.36	3.45	9.95	Jacksonville, Fla.
Celery Grower	1211	Guaranteed Analysis.	10.00	5.50	1.00	.....	3.00	4.00	Armour Fertilizer Works,
		Official Analysis....	6.40	7.87	0.10	7.97	7.55	4.67	Jacksonville, Fla.
Amour's Lettuce Special..	1212	Guaranteed Analysis.	10.00	3.00	2.00	.....	7.00	4.00	Armour Fertilizer Works,
		Official Analysis....	10.48	4.27	0.63	4.90	6.38	4.46	Jacksonville, Fla.
Tomato Special	1213	Guaranteed Analysis.	10.00	6.00	1.00	.....	5.00	8.00	Armour Fertilizer Works,
		Official Analysis....	4.62	6.57	2.14	8.71	4.64	7.87	Jacksonville, Fla.

NAME, OR BRAND.	Laboratory Number.		Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
Vegetable Fertilizer No. 1.	1214	Guaranteed Analysis.	5.00	.....	.....	.....	8.00	5.00	Germofert Manufac'ng Co. Charleston, S. C.
		Official Analysis....	8.44	2.61	6.91	9.42	7.95	5.18	
Orange Tree Germicide and Enricher	1215	Guaranteed Analysis.	5.00	2.50	5.00	.....	4.00	6.00	Germofert Manufac'ng Co. Charleston, S. C.
		Official Analysis....	3.64	4.18	10.34	14.52	4.14	5.33	
Strawberry Fertilizer.....	1216	Guaranteed Analysis.	8.00	6.00	2.00	.....	2.50	8.00	Tampa Fertilizer Co., Tampa, Fla.
		Official Analysis....	13.82	7.89	1.44	9.33	2.20	7.12	
Orange Fruiter Special...	1217	Guaranteed Analysis.	8.00	6.00	1.00	.....	2.00	16.00	Tampa Fertilizer Co., Tampa, Fla.
		Official Analysis....	5.88	8.00	1.01	9.01	2.95	12.37	
Fruit and Vine.....	1218	Guaranteed Analysis.	8.00	6.00	1.00	.....	2.00	12.00	Tampa Fertilizer Co., Tampa, Fla.
		Official Analysis....	6.80	6.65	1.70	8.35	2.01	12.04	
Pineapple Manure	1219	Guaranteed Analysis.	8.00	5.00	.....	10.00	6.00	8.00	Tampa Fertilizer Co., Tampa, Fla.
		Official Analysis....	4.56	5.23	2.57	7.80	5.50	8.26	
Favorite Blood, Bone and Potash for Vegetables...	1220	Guaranteed Analysis.	10.00	8.00	1.00	.....	5.00	7.00	Sanders Fertilizer Co., Jacksonville, Fla.
		Official Analysis....	7.85	8.45	1.71	10.16	4.87	6.94	

No. 1	1221	Guaranteed Analysis.	10.00	5.00	2.00	.....	5.00	4.00	Southern Fertilizer Co.,
		Official Analysis....	5.37	6.74	0.44	7.18	5.60	4.63	Orlando, Fla.
Fruit and Vine.....	1222	Guaranteed Analysis.	10.00	7.00	1.00	.....	2.00	12.00	Southern Fertilizer Co.,
		Official Analysis....	6.10	8.83	0.56	8.89	2.48	10.49	Orlando, Fla.
Vegetable Fertilizer	1223	Guaranteed Analysis.	10.00	6.00	2.00	....	5.00	6.00	Southern Fertilizer Co.,
		Official Analysis....	9.02	7.28	1.30	8.58	5.04	5.37	Orlando, Fla.
No. 4	1224	Guaranteed Analysis.	10.00	6.00	2.00	.....	3.00	10.00	Southern Fertilizer Co.,
		Official Analysis....	8.71	6.98	0.32	6.66	3.34	10.59	Orlando, Fla.

R. E. ROSE, State Chemist. **BUREAU OF FEEDSTUFFS.** A. M. HENRY, Assistant Chemist.

Analyses of Special Samples under Sec. 9, act approved May 24, 1905. (Samples taken by purchaser.)

NAME, OR BRAND.	Laboratory Number.	Fiber.	Protein.	Starch and Sugar.	Fat.	Ash.	FROM WHOM RECEIVED.
Purina Feed	70	7.46	15.01	50.79	4.08	8.90	Martel Lumber Co., Martel Fla.
Grass Hay	71	29.62	11.98	36.37	1.38	9.10	Robert Carlton, Nocatee, Fla.
Shorts	72	6.80	15.36	56.71	3.83	5.35	C. Brown & Bros., Ocala, Fla.
Kudzu Vine Hay	73	30.20	14.80	35.08	2.38	7.95	C. E. Please, Chipley, Fla.
Cotton Seed Meal	74	25.20	15.88	40.65	4.00	2.77	The McPhail Lumber Co., DeFuniak Springs, Fla.
Pure Wheat Ship Stuff	75	4.20	16.90	58.83	4.45	4.10	Guy R. Champlain, Jacksonville, Fla.
Pure Wheat Bran	76	9.05	14.70	54.25	3.28	6.97	Guy R. Champlain, Jacksonville, Fla.

NOTICE.—The especial attention of consumers and dealers is called to the following paragraph:

Consumers desiring to avail themselves of the provisions of Sec. 9 of the laws providing for "Special Samples" drawn by consumers are requested to read carefully Sec. 9 of the laws and the "Rules and Regulations governing the taking and forwarding Special Samples of Feedstuffs and Fertilizers" found on a preceding page of the report. Also to compare the "official analysis" and the "market value" of various feeds sold in the State.

It will be found that in a number of cases the "market value," or price, is no criterion of the actual feeding value of the goods—that in several instances the highest "market value" is placed on the most inferior goods.

Consumers should compare the guarantee tag on the bag with the table of "average composition of feedstuffs." In case of doubt as to the truthfulness of the guarantee, draw a sample, according to law and regulations, and send in a tin box, sealed, to the "Commissioner of Agriculture." Preserve the "guarantee tags" off the packages, to compare with the result of the analysis of the sample by the State Chemist.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

ANALYSES OF FEEDSTUFFS, 1908.

R. E. ROSE, State Chemist. A. M. HENRY, Assistant Chemist.

Samples taken by State Chemist under Section 1, act approved May 24, 1905.

NAME, OR BRAND.	Laboratory Number.		Fiber	Protein.	Starch and Sugar.	Fat.	Ash.	ADDRESS OF MANUFACTURERS.
Pure Wheat Bran.....	562	Guaranteed Analysis.	7.49	16.09	53.58	4.68	.....	Acme Mills and Elevator Co., Hopkinsville, Ky.
		Official Analysis....	7.32	16.10	55.73	4.00	5.70	
Pure Wheat Bran.....	563	Guaranteed Analysis.	7.49	16.09	53.58	4.68	.....	Acme Mills and Elevator Co., Hopkinsville, Ky.
		Official Analysis.....	6.20	15.32	57.46	4.00	4.87	
Bran	564	Guaranteed Analysis.	9.50	14.50	54.00	3.75	.....	H. C. Cole Milling Co., Chester, Ill.
		Official Analysis.....	9.20	15.53	52.57	4.43	6.75	
Pure Wheat Bran.....	565	Guaranteed Analysis.	9.50	14.50	50.00	4.00	.....	Cumberland Mills, Nashville, Tenn.
		Official Analysis.....	9.01	14.57	54.02	4.38	7.27	
Pure Wheat Bran.....	566	Guaranteed Analysis.	9.49	14.60	57.23	4.06	.....	The Dunlap Milling Co., Clarksville, Tenn.
		Official Analysis.....	9.00	14.52	55.08	3.80	6.50	
Pure Wheat Bran.....	567	Guaranteed Analysis.	9.50	14.50	54.00	5.00	.....	Tennessee Milling Co., Estill Springs, Tenn.
		Official Analysis.....	7.77	14.74	56.16	3.33	6.00	
Pure Wheat Bran and Shorts..	568	Guaranteed Analysis.	7.64	14.94	58.28	4.46	4.68	Barnett, Denton & Lynn Co., Dalton, Ga.
		Official Analysis.....	6.42	14.60	57.91	4.10	5.00	

ANALYSES OF FEEDSTUFFS—Continued.

NAME, OR BRAND.	Laboratory Number.		Fiber	Protein.	Starch and Sugar.	Fat.	Ash.	ADDRESS OF MANUFACTURERS.
Middlings	569	Guaranteed Analysis.	5.50	16.00	57.00	4.50	.....	H. C. Cole Milling Co., Chester, Ill.
		Official Analysis.....	3.50	17.11	61.14	3.70	3.45	
Shorts	570	Guaranteed Analysis.	6.25	15.50	61.25	5.25	.....	Wm. T. Kemper Elevator Co., Kansas City, Mo.
		Official Analysis.....	5.80	20.45	52.72	4.50	5.20	
Pure Wheat Shorts	571	Guaranteed Analysis.	6.00	16.00	48.00	4.00	.....	Liberty Mills, Nashville, Tenn.
		Official Analysis.....	5.52	16.20	58.76	4.03	4.67	
"Ship Stuff"	572	Guaranteed Analysis.	7.00	13.00	60.00	5.50	.....	Mountain City Mills Co., Chattanooga, Tenn.
		Official Analysis.....	7.21	13.60	59.10	5.03	3.81	
Corno Hen Feed	573	Guaranteed Analysis.	2.30	10.00	70.00	3.70	.....	The Corno Mills Co., East St. Louis, Ill.
		Official Analysis.....	2.22	10.50	69.53	2.65	1.55	
Corno Horse and Mule Feed	574	Guaranteed Analysis.	.....	10.00	58.50	3.50	.....	The Corno Mills Co., East St. Louis, Ill.
		Official Analysis.....	13.47	10.00	57.49	3.27	4.32	
Gonzalez Cow Feed	575	Guaranteed Analysis.	.....	16.50	51.40	6.76	.....	M. F. Gonzalez & Co., Pensacola, Fla.
		Official Analysis.....	8.37	16.15	55.43	5.65	3.25	
Grainfalfa Feed	576	Guaranteed Analysis.	11.00	12.00	58.00	4.00	.....	The Great Western Cereal Co., Chicago, Ill.
		Official Analysis.....	11.80	11.41	57.07	3.90	4.65	

"Molasco"	577	Guaranteed Analysis.	8.00	12.23	56.80	3.27	.....	The Molasco Co.,
		Official Analysis.....	17.52	15.93	43.90	2.80	9.85	East St. Louis, Ill.
Protena Alfalfa Feed	578	Guaranteed Analysis.	11.90	12.20	56.00	4.00	.....	Ralston Purina Co.,
		Official Analysis.....	10.65	12.95	56.38	3.60	4.67	St. Louis, Mo.
Purina Feed	579	Guaranteed Analysis.	7.90	14.00	60.00	4.50	.....	Ralston Purina Co.,
		Official Analysis.....	9.45	13.69	58.04	3.80	4.45	St. Louis, Mo.
Cotton Seed Meal	580	Guaranteed Analysis.	.....	38.62	.....	.....	.....	Fla. Cotton Oil Co.,
		Official Analysis.....	10.55	38.00	29.35	7.45	5.40	Jacksonville, Fla.
Cotton Seed Meal, medium grade	581	Guaranteed Analysis.	.....	38.62	.....	.....	.....	People's Cotton Oil Co.,
		Official Analysis.....	10.60	39.31	29.66	6.28	5.85	Selma, Ala.
Cotton Seed Meal	582	Guaranteed Analysis.	.....	38.62	.....	.....	.....	Southern Cotton Oil Co.,
		Official Analysis.....	10.20	38.65	28.15	7.90	5.85	Savannah, Ga.
Cotton Seed Meal, Star Brand	583	Guaranteed Analysis.	.....	38.62	24.00	9.00	.....	J. Lindsay Wells Co.,
		Official Analysis.....	10.32	40.19	29.49	7.00	6.35	Memphis, Tenn.
Cotton Seed Meal	584	Guaranteed Analysis.	.....	25.00	.....		5.00	Fla. Cotton Oil Co.,
		Official Analysis.....	18.7.	23.30	37.10	5.42	5.00	Tallahassee, Fla.
Pure Wheat Middlings	585	Guaranteed Analysis.	4.55	16.04	62.48	4.17	.....	The Dunlap Milling Co.,
		Official Analysis.....	4.95	16.15	57.85	5.05	4.15	Clarksville, Tenn.
Mixed (Bran) Feed	586	Guaranteed Analysis.	11.24	13.42	.....	3.80	.....	Capital Grain and Mill Co.,
		Official Analysis.....	19.17	8.90	54.63	.....	4.40	Nashville, Tenn.
Mixed (Middlings) Feed	587	Guaranteed Analysis.	10.90	14.26	.....	3.70	.....	Capital Grain and Mill Co.,
		Official Analysis.....	12.87	11.23	59.15	2.25	3.60	Nashville, Tenn.

ANALYSES OF FEEDSTUFFS—Continued.

NAME, OR BRAND.	Laboratory Number.		Fiber	Protein.	Starch and Sugar.	Fat.	Ash.	ADDRESS OF MANUFACTURERS.
Mixed Shorts	588	Guaranteed Analysis.	7.39	12.99	60.71	4.03	2.64	Hardy Grain Co.,
		Official Analysis.....	9.32	14.92	55.76	4.50	4.75	Union City, Tenn.
Alfacorn Feed	589	Guaranteed Analysis.	12.00	10.00	55.00	3.50	.....	Capital Grain and Mill Co.,
		Official Analysis.....	16.00	9.96	55.70	2.88	4.82	Nashville, Tenn.
Pure Wheat Bran	590	Guaranteed Analysis.	7.49	16.09	53.58	4.68	.....	Acme Mills and Elevator
		Official Analysis.....	7.40	15.97	54.53	3.98	5.70	Co., Hopkinsville, Ky.
Pure Wheat Bran	591	Guaranteed Analysis.	9.50	14.50	50.00	4.00	.....	Alabama Corn Mills Co.,
		Official Analysis.....	8.27	14.83	54.30	3.50	6.10	Mobile, Ala.
Pure Wheat Bran	592	Guaranteed Analysis.	9.50	14.50	50.00	4.00	.....	Liberty Mills,
		Official Analysis.....	8.53	15.86	56.31	3.20	6.50	Nashville, Tenn.
Pure Wheat Bran	593	Guaranteed Analysis.	9.50	14.50	50.00	4.00	.....	Liberty Mills,
		Official Analysis.....	8.07	16.06	54.49	3.63	6.30	Nashville, Tenn.
Lillie Bran"	594	Guaranteed Analysis.	8.50	15.00	56.50	4.00	.....	Lillie Mill Co.,
		Official Analysis.....	7.25	15.97	55.85	4.13	5.82	Franklin, Tenn.
Pure Wheat Bran	595	Guaranteed Analysis.	.....	15.00	54.00	3.00	.....	Geo. P. Plant Milling Co.,
		Official Analysis.....	8.97	15.75	52.98	4.08	6.65	St. Louis, Mo.

Bran and Ship Stuff	596	Guaranteed Analysis.	4.65	13.78	62.35	3.00	.....	Blackford Milling Co.,
		Official Analysis.....	3.50	15.75	62.35	3.00	3.53	Blackford, Ky.
Pure Wheat Bran and Shorts...	597	Guaranteed Analysis.	7.64	14.94	58.28	4.46	4.68	Barrett, Denton & Lynn
		Official Analysis.....	5.70	15.45	59.35	3.20	4.75	Co., Dalton, Ga.
Albatross Middlings	598	Guaranteed Analysis.	3.50	14.00	62.00	2.50	.....	John F. Meyer & Sons,
		Official Analysis.....	2.30	16.10	64.68	3.10	2.30	Milling Co., St. Louis.
White Middlings	599	Guaranteed Analysis.	.....	17.39	55.10	3.26	.....	Acme Mills & Elevator Co.,
		Official Analysis.....	1.72	14.57	68.27	2.20	1.82	Hopkinsville, Ky.
Pure Wheat Shorts	600	Guaranteed Analysis.	6.00	16.00	48.00	4.00	.....	Southern Mills,
		Official Analysis.....	5.55	18.16	55.89	4.45	5.30	Nashville, Tenn.
Pure Wheat Shorts	601	Guaranteed Analysis.	.....	17.31	.....	4.85	.....	Washburn Crosby Milling
		Official Analysis.....	6.02	16.58	57.60	4.30	4.95	Co., Louisville, Ky.
"Ship Stuff"	602	Guaranteed Analysis.	7.00	13.00	60.00	5.50	.....	Mountain City Mill Co.,
		Official Analysis.....	5.87	13.74	60.54	5.20	3.20	Chattanooga, Tenn.
"Ship Stuff"	603	Guaranteed Analysis.	7.00	13.00	60.00	5.50	.....	Mountain City Mill Co.,
		Official Analysis.....	6.17	15.58	57.28	5.40	4.20	Chattanooga, Tenn.
Delta Feed	604	Guaranteed Analysis.	.....	7.00	58.00	4.00	.....	The Valley Milling Co.,
		Official Analysis.....	11.80	8.34	62.01	3.70	3.87	St. Louis, Mo.
Cooked Horse Feed	605	Guaranteed Analysis.	8.05	11.50	60.75	5.48	.....	American Steam Feed Co.,
		Official Analysis.....	9.52	11.93	60.28	3.33	4.95	Nashville, Tenn.
Grainfalfa Feed	606	Guaranteed Analysis.	11.00	12.00	58.00	4.00	.....	The Great Western Cereal
		Official Analysis.....	9.57	11.98	57.95	4.40	4.45	Co., Chicago, Ill.

ANALYSES OF FEEDSTUFFS—Continued.

NAME, OR BRAND.	Laboratory Number.		Fiber	Protein.	Starch and Sugar.	Fat.	Ash.	ADDRESS OF MANUFACTURERS.
Cotton Seed Meal.....	607	Guaranteed Analysis.	.....	38.62	.....	.....	.....	Buckeye Cotton Oil Co., Augusta, Ga.
		Official Analysis.....	10.80	37.73	23.62	6.95	5.75	
Cotton Seed Meal.....	608	Guaranteed Analysis.	.....	38.62	.....	.....	.....	Florida Cotton Oil Co., Jacksonville, Fla.
		Official Analysis.....	9.20	40.75	27.08	8.35	5.77	
Cotton Seed Meal.....	609	Guaranteed Analysis.	.....	38.62	.....	.....	.....	Macon County Oil Co., Tuskegee, Ala.
		Official Analysis.....	9.15	40.75	27.25	8.00	6.06	
Cotton Seed Meal.....	610	Guaranteed Analysis.	.....	25.00	15.30	5.00	.....	J. Lindsay Wells Co., Memphis, Tenn.
		Official Analysis.....	23.50	19.44	39.51	4.45	4.30	
Dairy and Stock Feed.....	611	Guaranteed Analysis.	9.50	18.00	48.00	4.00	.....	Atlanta Milling Co., Atlanta, Ga.
		Official Analysis.....	7.50	24.92	46.43	5.10	5.35	
Daisy Dairy Feed.....	612	Guaranteed Analysis.	9.00	14.00	58.00	3.00	.....	The Great Western Cereal Co., Chicago, Ill.
		Official Analysis.....	10.47	14.54	54.73	1.77	7.26	
Banner Feed	613	Guaranteed Analysis.	10.00	8.50	62.00	3.50	.....	The Quaker Oats Co., Chicago, Ill.
		Official Analysis.....	8.80	9.13	65.70	2.13	2.82	
Banner Feed	614	Guaranteed Analysis.	10.00	8.50	62.00	3.50	.....	The Quaker Oats Co., Chicago, Ill.
		Official Analysis.....	7.62	9.39	66.99	2.90	2.80	

Purina Feed	615	Guaranteed Analysis.	7.90	14.00	60.00	4.50	.....	Ralston Purina Co.,
		Official Analysis....	8.80	13.16	61.66	2.98	3.35	St. Louis, Mo.
Sucrene Dairy Feed	616	Guaranteed Analysis.	12.00	16.50	48.54	3.50	.....	American Milling Co.,
		Official Analysis....	11.15	17.72	47.18	5.00	7.20	Philadelphia, Pa.
Sucrene Horse, Mule & Ox Feed	617	Guaranteed Analysis.	12.50	10.00	52.45	3.00	.....	American Milling Co.,
		Official Analysis....	9.00	11.93	59.49	3.13	5.80	Philadelphia, Pa.
Victor Feed	618	Guaranteed Analysis.	12.00	7.50	62.00	3.00	.....	The Quaker Oats Co.,
		Official Analysis....	12.85	7.99	63.34	2.55	4.10	Chicago, Ill.
Pure Wheat Bran	619	Guaranteed Analysis.	.....	15.85	51.20	4.84	.....	Ingleheart Bros.,
		Official Analysis....	9.72	14.92	53.91	4.05	5.90	Evansville, Ind.
Pure Wheat Bran	620	Guaranteed Analysis.	9.50	14.50	50.00	4.00	.....	Liberty Mills,
		Official Analysis....	8.97	15.36	53.90	3.85	6.80	Nashville, Tenn.
Pure Wheat Middlings	621	Guaranteed Analysis.	4.58	16.04	62.58	4.17	.....	The Dunlap Milling Co.,
		Official Analysis....	5.30	18.60	56.45	5.35	4.50	Clarksville, Tenn.
Brown Shorts	622	Guaranteed Analysis.	6.00	15.00	60.83	4.00	.....	Atlanta Milling Co.,
		Official Analysis....	5.45	16.32	58.63	4.55	4.75	Atlanta, Ga.
Fancy Shorts	623	Guaranteed Analysis.	3.90	16.36	62.66	4.50	3.15	Akin-Eiskine Milling Co.,
		Official Analysis....	5.30	16.45	59.70	4.38	4.15	Evansville, Ind.
Forest City Feed Meal	624	Guaranteed Analysis.	.....	23.00	30.00	4.50	.....	The Southern Cotton Oil Co.,
		Official Analysis....	18.75	23.69	35.76	7.85	5.20	Savannah, Ga.
Cotton Seed Meal	625	Guaranteed Analysis.	.....	36.05	.....	.....	.....	Johnston Cotton Oil Co.,
		Official Analysis....	10.15	40.75	27.50	7.73	5.90	Johnston, S. C.

ANALYSES OF FEEDSTUFFS —Continued.

NAME OF BRAND.	Laboratory Number.		Fiber.	Protein.	Starch and Sugar.	Fat.	Ash.	ADDRESS OF MANUFACTURERS.
Globe Gluten Feed.....	626	Guaranteed Analysis.	.....	26.00	.....	2.50	.....	Corn Products Refining Co., New York, N. Y.
		Official Analysis.....	7.22	26.20	47 25	4.48	4.95	
Feed Stuff	627	Guaranteed Analysis.	15.46	12.00	55 23	3.30	.....	Cornelia Mills, Jacksonville, Fla.
		Official Analysis.....	7.00	13.16	58.5.	2.47	7.50	

SPECIAL NOTICE.—The attention of dealers and consumers is called to the table of "Average Composition of Feedstuffs" on a preceding page. This table shows approximately the composition of the various feedstuffs sold throughout the country. Any material variation from these averages is presumptive evidence of impurity or adulteration.

A careful examination of the foregoing tables is recommended to both dealers and consumers. The guarantee of the manufacturer should not vary materially from this table of averages, while the "official analysis" should show practically the same composition as the guarantee. Dealers and consumers are requested, in all cases of suspected inferiority or adulteration, send a sample at once to the Commissioner of Agriculture for analysis.

R. E. ROSE State Chemist. Samples sent in by citizens B. H. BRIDGES, Assistant Chemist.

Lab. No.	Name or Brand.	Manfuacturer.	Retail Dealer.	Alcohol—per cent by volume	By Whom Sent.
148	Red Heart Mead....	Jung Brewing Co., Cincinnati, Ohio	.....	2.00	S. Demetre, Tallahassee, Fla.
149	Pabst Mead	Pabst Brewing Co., Milwaukee, Wis.	.....	2.00	S. Demetre, Tallahassee, Fla.
150	Schlitz Fizz	Jos. Schlitz Brewing Co., Milwaukee, Wis.	.....	2.00	A. D. Stanton, Sheriff, Madison County.
151	Pabst Mead	Pabst Brewing Co., Milwaukee, Wis.	.....	2.70	A. D. Stanton, Sheriff, Madison County.
153	"Malt Extract, No. 2"	.....	.....	5.65	J. Gordon Pearce, Alton, Fla.
154	Schlitz Fizz	Jos. Schlitz Brewing Co., Milwaukee, Wis.	.....	2.00	Schlitz Brewing Co., Milwaukee, Wis.
155	Schlitz Fizz	Jos. Schlitz Brewing Co., Milwaukee, Wis.	.....	2.00	Schlitz Brewing Co., Milwaukee, Wis.
157	"Meth"	Wm. J. Lemp Brewing Co., St. Louis, Mo.	.....	2.70	Deeb Bros., Tallahassee, Fla.

Lab. No.	Name or Brand.	Manufacturer.	Retail Dealer.	Alcohol—per cent by volume	By Whom Sent.
158	White Top	Capital Brewing Co., Montgomery, Ala.	.....	2.70	P. W. Williams, Havana, Fla.
159	Maltine	Acme Brewing Co., Macon, Ga.	.....	.....	P. W. Williams, Havana, Fla.
161	Schlitz Fizz	Jos. Schlitz Brewing Co., Milwaukee, Wis.	.....	2.00	Schlitz Brewing Co., Milwaukee, Wis.
162	Schlitz Fizz	Jos. Schlitz Brewing Co., Milwaukee, Wis.	.....	2.25	Schlitz Brewing Co., Milwaukee, Wis.

Laboratory Number	IDENTIFIED AS—		FROM—
152	A mixture of: Bone Phosphate of Lime ..... 44.16 per cent.. Sodium Hyposulphite..... 34.44 per cent..		Joseph Crews, Wauchula, Fla.
156	Apple Cider: Extract..... 4.61 per cent.. Ash ..... 0.28 per cent.. Alcohol ..... 4.85 per cent..		Liberty Fruit Products Co, Jacksonville, Fla.
159	Paris Green: Arsenious oxide..... 58.61 per cent. Copper oxide..... 26.70 per cent..		Hardee-Smith Co., Tallahassee, Fla.
163	Milk: Fat..... 5.1 per cent...		Mrs. O. C. Van Brunt, Tallahassee, Fla.
164	Milk: Fat..... 4.9 per cent..		Mrs. O. C. Van Brunt, Tallahassee, Fla.
165	Milk: Fat..... 5.4 per cent..		E. H. Sellards, Tallahassee, Fla.
166	Raw Linseed Oil: Specific gravity..... .939 Iodine value .....105.90 Ash ..... 0. 24 per cent	adulterated	J. L. McDaniel, Jennings, Fla.
167	Boiled Linseed Oil: Specific gravity ..... 0.885 Iodine value ..... 99.95 Moisture ..... 3.07 per cent	adulterated	J. L. McDaniel, Jennings, Fla.

R. E. ROSE, State Chemist. FOOD AND DRUG ANALYSES. B. H. BRIDGES Assistant Chemist.

Official samples drawn by State Inspector, under Chapter 5662, Acts of 1907.

RESULTS OF EXAMINATION OF VINEGARS.

Lab. No.	Name or Brand	Manufacturer or Wholesaler.	Retail Dealer.	Per cent acetic acid.	Per cent total solids.	Per cent ash.	Lead acetate.	Sodium bicarbonate.	Indications are that this is—
68	Apple Vinegar.	Semmes-Boord Co., Washington, D. C.	West-Gadsden Trading Co., Greensboro, Fla	4.29	2.29	0.37	Precipitate ...	Dark	Apple Vinegar.
69	Distilled Vinegar	R. M. Hughes & Co., Louisville, Ky....	J. P. Smith, Quincy, Fla.	3.89	0.24	0.08	No precipitate		Distilled Vinegar.
71	Apple Vinegar.	R. M. Hughes & Co., Louisville, Ky....	E. B. Shelfer Co., Quincy, Fla.	4.40	2.23	0.20	Precipitate ...	Dark	Apple Vinegar.
87	Apple Vinegar.	Prince Lucas Cider Vinegar Co.....	H. Muller, Pensacola, Fla.	4.37	2.16	0.38	Precipitate ...	Dark	Apple Vinegar.
89	Cane Sugar Vinegar	Dodson Brown Mfg. Co., St. Louis, Mo..	J. E. Dubuisson, Pensacola, Fla.	4.76	0.45	0.08	Trace precipitate.....	.....	Fermented Cane Sugar Vinegar.
90	Distilled Vinegar	R. M. Hughes & Co., Louisville, Ky....	J. E. Dubuisson, Pensacola, Fla.	5.67	0.22	0.04	No precipitate		Distilled Vinegar.
95	Apple Cider Vinegar	H. J. Heinz Co., Pittsburg, Pa.....	Randolph & Finn, Tallahassee, Fla..	4.67	2.52	0.33	Precipitate ...	Dark	Apple Vinegar.
96	Distilled Vinegar	H. J. Heinz & Co. Pittsburg, Pa.....	Randolph & Finn, Tallahassee, Fla..	5.66	0.15	0.02	Trace precipitate.....	.....	Distilled Vinegar.
97	Distilled Vinegar	H. J. Heinz & Co. Pittsburg, Pa.....	T. B. Byrd & Co., Tallahassee, Fla..	5.30	0.18	02	No precipitate.		Distilled Vinegar.
98	Apple Vinegar.	H. J. Heinz & Co. Pittsburg, Pa.....	T. B. Byrd & Co., Tallahassee, Fla..	4.76	1.74	0.40	Precipitate....	Dark	Apple Vinegar.

RESULTS OF EXAMINATION OF CONDENSED MILKS.

Laboratory No.	Name or Brand.	Manufacturer or Wholesaler.	Retail Dealer.	Per cent Fat.
37	Dime Brand	Borden's Condensed Milk Co., New York	Bittjemann & Helms, Jacksonville, Fla.	7.5
38	Blue Ribbon	Hire's Condensed Milk Co., Philadelphia, Pa.	Bittjemann & Helms, Jacksonville, Fla.	9.0
40	Challenge Brand	Borden's Condensed Milk Co., New York	Bittjemann & Helms, Jacksonville, Fla.	7.8
41	Jersey Brand	Mohawk Condensed Milk Co., Rochester, N. Y.	Bittejemann & Helms, Jacksonville, Fla.	8.4
43	Peerless Brand	Borden's Condensed Milk Co., New York	King Bee Grocery Co., Jacksonville, Fla.	7.5
45	Red Cross Brand	Mohawk Condensed Milk Co., Rochester, N. Y.	David Brothers, Jacksonville, Fla.	9.0
46	St. Charles	St. Charles Milk Co., St. Charles, Ill.	Wilkerson & Spiller, Jacksonville, Fla.	7.8
47	Peerless Brand	Borden's Condensed Milk Co., New York	J. P. Lovett, Apalachicola, Fla	7.8
48	Magnolia Brand	Borden's Condensed Milk Co., New York	J. P. Lovett, Apalachicola, Fla.	8.4
49	Dime Brand	Borden's Condensed Milk Co., New York	J. P. Lovett, Apalachicola, Fla.	7.9
51	Challenge Brand	Borden's Condensed Milk Co., New York	R. Collins, Apalachicola, Fla.	8.7
52	Eagle Brand	Borden's Condensed Milk Co., New York	R. Collins, Apalachicola, Fla.	9.0
53	Van Camp	Van Camp Packing Co., Indianapolis, Ind.	City Bakery, Apalachicola, Fla.	7.8

RESULTS OF EXAMINATION OF CONDENSED MILK—Continued.

Laboratory No.	Name or Brand.	Manufacturer or Wholesaler.	Retail Dealer.	Per cent Fat.
54	Pet Brand	Helvetia Milk Co., Highland, Ill.	J. B. Hickey, Apalachicola, Fla.	7.8
57	Peerless Brand	Borden's Condensed Milk Co., New York.	E. B. Woodberry, Quincy, Fla.	8.4
58	Dime Brand	Borden's Condensed Milk Co., New York	E. B. Woodberry, Quincy, Fla.	8.4
60	Challenge Brand	Borden's Condensed Milk Co., New York	Love & Hearin, Quincy, Fla.	7.8
61	Dime Brand	Borden's Condensed Milk Co., New York.	H. L. Gregory, Tallahassee, Fla.	9.3
62	Peerless Brand	Borden's Condensed Milk Co., New York.	R. B. Carpenter, Tallahassee, Fla.	8.1
63	Square Brand (skimmed)	Hire's Condensed Milk Co., Philadelphia, Pa.	Randolph & Finn, Tallahassee, Fla.	0.0
64	Eagle Brand	Borden's Condensed Milk Co., New York	T. B. Byrd, Tallahassee, Fla.	8.4
65(a)	Dime Brand	Borden's Condensed Milk Co., New York	P. T. Mickler, Tallahassee, Fla.	7.8

MISCELLANEOUS

SHALL RUDIMENTARY SCIENCE, AGRICULTURE, AND THE KINDRED SCIENCES BE TAUGHT IN THE COMMON SCHOOLS?

(Address by R. E. Rose, State Chemist, before the Florida State Horticultural Society at Gainesville, Fla., May 15, 1908.)

The question, Shall we teach rudimentary science in the common schools—physics, chemistry, biology and kindred sciences relating to agriculture and domestic science, better known as nature studies—is now occupying the attention of many thinkers. The question is discussed from many points of view, by persons of divers professions, the scientist, the editor, the professors of our colleges, both literary colleges and scientific schools; the political economist and the layman.

The fact that the discussion is universal among thinkers shows its importance. No one at this day will deny the value of education; no one would dare suggest the abolishment of the common schools.

The question is, therefore, What is the purpose of public education _ The reply would certainly be, To improve the man; to make of him an active, useful member of society; to teach him the principles of the calling he is to pursue; to broaden his conception of the laws underlying his chosen profession; to give him the benefit of knowledge accumulated from the experience of others without the care, toil, research and time necessary to be given in the personal experimenting and study of the subject, in gaining the information as to the facts, laws and reasons underlying the work he is to perform; incidentally to improve his reasoning powers, broaden his mind, and develop his intellect.

The common school has greatly broadened its scope, in the last three decades—much useless matter has been eliminated and better methods adopted.

Science of Teaching.

The science of teaching has been recognized—teachers are trained. Pedagogy is now recognized as a science, and taught as such. To become a teacher, one must study the science and art of teaching. Most of us can remember when the teacher in the common schools was generally an untrained workman, knowing little of the teacher's profession, having more or less knowledge of the "three R's" and little if any capacity or inclination to impart what little he did know.

The demand for training, or education, has grown wonderfully in the past thirty years, particularly for training along special lines. In all walks of life the specialist is now recognized—in law, medicine, the sciences, teaching, agriculture, chemistry, physics; in none is the specialist more evident than in the teachers' profession.

Agriculture, "the oldest art, the youngest science," occupies by far the greater number of our people, while the trades and other productive occupations, manufacture and transportation, the next larger part of the population of this and other countries. The proper fitting or training of this vast majority of our citizens for their future occupations, becomes a question of the utmost importance to the State.

In a recent address delivered in this city by an eminent authority, Dr. Andrew Sledd, president of the Florida University, he said:

"For some years the public schools of the United States have not been fully meeting their obligation to the general public. According to the census of 1900, of the 29,000,000 persons over ten years of age engaged in gainful occupations, 10,400,000 were following agricultural pursuits, or 35.7 per cent.; 24.4 per cent were employed in manufacturing and kindred labor; domestic and personal occupations claimed 19.2 per cent, trade 16.4 per cent, and the professions only 4.3 per cent. In Florida the percentage of farmers is even greater, or 44 per cent., and of men engaged in the professions, smaller, or 3.5 per cent.

A public school system, established for the greatest

good of the greatest number, would, if free from prejudice and from traditional influences, base its educational policy along the line of bulks of population. The curriculum would be made to prepare the major part of the youth for their life work, instead of those preparing to follow some profession. Until recent times the major part has been ignored.

Struggle with Tradition.

The present situation gives promise of what is to be, although the struggle with tradition is still going on. Modern education is for the masses. Practical education is coming to the front. The cultural and humanizing subjects are not to be ignored, yet the practical should assert its rights.

Washington, in his first message to Congress, advocated the fostering of agriculture. The first organization of farmers in the United States was founded in 1785 at Philadelphia. Of this society Washington and Benjamin Franklin were members. Among the committees appointed was one to promote agricultural education. This committee advocated the founding of professorships of agriculture in the colleges already established, and the giving of courses of agriculture in the high schools. The first professorship of agriculture was established at Columbia in 1792. The First State Agricultural College was founded in Michigan in 1855; although private schools, some of college rank, were in existence before this date, and a few of these had State aid.

The Federal Government early manifested its interest, the first action being taken even in the time of Washington. In comparatively recent times this interest in the practical education—in the education for agriculture and the mechanical arts—has grown greatly. Various acts have been passed and several are now pending in Congress for the fostering of education in agriculture and the mechanical arts.

In these acts the Federal Government seeks solely to promote instruction in agricultural and mechanical arts.

It believes that the masses need instruction where their work lies. There are several acts still pending.

Federal Aid.

In its aid the Federal Government seeks to throw emphasis where it is most needed to help the masses, to enable the man who toils in the sweat of his brow to do his work more efficiently. It seeks to uplift the mass of working people. Schools founded for this purpose should keep it in mind; they should strive to serve most of the people in the best way."

I have taken the liberty to quote Dr. Sledd liberally; his position as an educator, his knowledge of the subject, gives his opinion and statement weight and authority.

I desire to call your attention, however, to the fact that the effort to teach agriculture and its kindred sciences, has been to establish colleges and schools of higher learning—a very necessary course perhaps in the early days, when trained agriculturists and scientists were few, when the science of agriculture was practically unknown, when text books on the subject were few, and not adapted to the school room; in fact, only of value to the trained scientist, and so cumbered with scientific terms, that the ordinary teacher, to say nothing of the school children, failed to grasp their meaning or understand their truths, which were frequently, simply assumptions, and not yet demonstrated facts. There were doubtless reasons for beginning the structure at the roof and building down to the foundation. As Secretary of Agriculture Wilson has aptly said: "Place a faculty of agricultural professors in the top story of a building without a stairway, and say to the boys and girls of the country, jump up here, and we will teach you scientific agriculture."

When we remember that of the many millions of school children, only 1 per cent or less graduate from the high school (of which 80 per cent are females), that by far the greatest number never enter the high school, but have to begin their life work, with but a few years' (or months') training in the common schools, we realize how few of our

boys and girls destined to be farmers, and farmers' wives, of the country, ever receive in school any practical or scientific knowledge of the subject which will be the principal, if not the only, pursuit of their lives.

I will not indulge in the usual platitudes, "The farm the basis of wealth, the mudsill, or foundation of the nation's prosperity." The object of my talk is to stimulate a demand for teaching those things that will be of the most value to the greatest number of the future men and women of the country, that will elevate them to excel in its pursuit.

Ninety per cent of our boys and girls, particularly in the rural districts, "quit school" before reaching what is known as seventh grade of the common schools; very few enter the high schools, and still fewer graduate therefrom.

By far the larger part of our people begin their life's work without finishing the course in the common schools, with a smattering of "reading, riting and rithmetic," with no effort to teach them any of the facts, or laws, underlying the profession they are to pursue. It would be folly for for me to decry the value of the necessary preliminary studies, arithmetic, spelling, reading and writing, and such fundamental branches. I do contend, however, that the rudimentary principles of physics, biology and other natural science, "nature studies," should be substituted for the ordinary "reader"—with its fables and glittering generalities, elocutionary gymnastics and singsong poetry. Our reading exercises could be made useful and entertaining, and impart knowledge at the same time; language equally as pure taught, and correct ideas as to natural science imparted at the same time.

Equally as interesting stories, inculcating facts, can be substituted for the fables and stories of the present reading lesson.

Agricultural Textbooks.

Many of the text books on agriculture—now abundant—are interesting to a degree to the youthful mind—always

hungry for information. That child once taught the first law of physics, expressed in simple language—that "force and reaction are the same and in opposite directions," will not in future life spend years in the futile effort to create perpetual motion.

That child taught a few lessons in physiology, or animal structure, will never be guilty of removing an animal's inner eyelids to cure the "hooks," nor bore a cow's horn for "hollow horn."

When taught a few of the fundamental laws of agricultural chemistry he will not buy a ton of "guano" because it is cheaper than another ton; nor will he be persuaded to buy fertilizer or feeds on account of a name or brand, and pay more for an inferior material with a catchy name.

No lesson is more quickly absorbed, nor more easily taken in, by the average child than physical geography, simply because it deals in facts as to productions and conditions of various countries, strange animals, plants, peoples and customs.

A boy or a girl may not know what is the definition of a continent, peninsula, island or isthmus; he knows, however, that oranges and alligators are found in Florida, that "Uncle Sam" is cutting a big ditch at Panama; that monkeys, coffee, jaguars and india rubber come from South America.

Children Want Facts.

We do not appreciate the capacity of our children for facts. They care little for the reasons, but want facts. These should be given as fully as possible. Rules mean but little to children; facts much.

How many of you remember the old Murray's grammar, with its pages of rules, which we "learned by heart" and did not understand (and don't yet)? The old Davies' or Todds' arithmetic, with its rules and terms—all Greek to us then, and to most of us now.

We did know (when the teacher or our parents told us) that certain constructions of sentences or certain

words were not correct. We learned good language from hearing it spoken.

We now teach grammar and arithmetic almost unconsciously, by absorption, we might say.

The same may be said of science or "applied common sense." The facts which experience and experiment have proved to be facts, governed by natural laws.

How many of us members of the Horticultural Society would have avoided serious mistakes, expensive in time and money, had we, as children, been taught a few facts as to the composition and use of fertilizers; why they were necessary, and for what purpose applied; the functions of nitrogen, phosphates and potash in the plant economy?

How many of us have had to learn by experience, more or less expensive, the facts well known to the scientist of the day, though forty years ago he knew little more than the average pupil of the common school knows now?

There is little chance to teach agricultural science (and art) to the adult farmer. Barring the Farmers' Institute, there is no efficient method of reaching him. However, teach these facts to the children, furnish them with authentic and trustworthy text books, and very soon the parent will himself absorb a very considerable part of the sciences.

Begin with the Cradle.

It has been said "The education of the child should begin in the cradle." No greater truth was ever spoken.

"The child is father to the man," and on his early training depends the future citizenship of the country, while teaching the child, the common school pupil. the rudimentary truths, facts and laws of science—"nature study" —by simple statements of facts, with little discussion, rules or reasons, put before him in an interesting manner in the shape of narratives or stories, illustrating the subject, together with simple experiments and illustrations, we unconsciously, but none the less certainly, teach the

parent many truths and broaden his conception of his calling. For rest assured, that whatever deeply interests the child at school is discussed at home, commented on and digested to a degree not generally understood nor allowed for.

Why have our children's imagination excited, their faith in the wisdom or truthfulness of their teacher and text books lessened by such tales as the Adventures of Sinbad the Sailor, Gulliver's Travels, Don Quixote, interesting and exciting to the imaginative and credulous mind of the child, and other equally useless, in fact, injurious matter, used in the school room, when equally choice and interesting reading matter, describing wonderful occurrences, beautiful processes and surprising results—all inculcating truths that will be of value in the succeeding years—can be given them; equally as interesting and exciting to their imaginations, making lasting impressions on their plastic minds? Truths told in simple language, free from scientific jargon, comprehensible to the youthful mind, or to the ordinary adult, who has had no scientific training, of which the mass of our people are composed.

Among scientific literature, written in plain, simple language that should be found in every school room and read by every teacher or pupil of our common schools, is the little monthly publication of our State Board of Health, called Health Notes. It deals with common things, common diseases, their cause and effects, in such simple, though forceful language as can be readily understood by anyone, child or adult, who can read. As a pattern for a children's or adults' primary scientific text book, it is commendable and should be found in every household in the State.

I am pleased to say that this subject is now attracting the attention of school officers and educators everywhere.

Summer Schools.

I note that our next summer schools for teachers will have the benefit of twelve lectures on agricultural sub-

jects by such men as Dr. Sledd, Prof. Rolfs, Prof. Floyd and Prof. Fawcett of the University of Florida and the Florida Experiment Station. Lectures that will doubtless go far towards instructing the teachers of the State as to the importance of acquiring a knowledge of the rudimentary principles of agriculture, that they may be better fitted to successfully prepare the children of the State for a broader view and more comprehensive knowledge of their future callings; that they may be able to dignify the farmer's profession by teaching that it is truly a science, as well as an art, requiring more knowledge of all the sciences than does that of any of the learned professions, to master its details and successfully practice it.

I believe the place to begin the teaching of agriculture is in the common school, just where we begin the teaching of literature and the science of numbers and language. That the farm, the school, the experiment station and agricultural college should be linked together and properly co-ordinated; that we should begin at the foundation—the child—and build upward toward the complete edifice, the college, and not from the college downward.

UNITED STATES DEPARTMENT OF AGRICULTURE, WASHINGTON, D. C.

FARMERS' BULLETINS.

The following is a list of the Farmers' Bulletins available for distribution, showing the number, title, and size in pages of each. Copies will be sent free to any address in the United States on application to the Secretary of Agriculture, Washington, D. C. Numbers omitted have been discontinued, being superseded by later bulletins.

22. The Feeding of Farm Animals. Pp. 40.
24. Hog Cholera and Swine Plague. Pp. 16.
25. Peanuts: Culture and Uses. Pp. 24.
27. Flax Seed and Fiber. Pp. 16.
28. Weeds and How To Kill Them. Pp. 30.
29. Souring and Other Changes in Milk. Pp. 22.
30. Grape Diseases on the Pacific Coast. Pp. 15.
32. Silos and Silage. Pp. 30.
33. Peach Growing for Market. Pp. 24.
34. Meats: Composition and Cooking. Pp. 31.
35. Potato Culture. Pp. 24.
36. Cotton Seed and Its Products. Pp. 16.
39. Onion Culture. Pp. 30.
41. Fowls: Care and Feeding. Pp. 24.
42. Facts about Milk. Pp. 32.
44. Commecial Fertilizers. Pp. 38.
46. Irrigation in Humid Climates. Pp. 27.
47. Insects Affecting the Cotton Plant. Pp. 32.
48. The Manuring of Cotton. Pp. 16.
49. Sheep Feeding. Pp. 24.
51. Standard Varietties of Chickens. Pp. 48.
52. The Sugar Beet. Pp. 48.
54. Some Common Birds. Pp. 48.
55. The Dairy Herd. Pp. 30.
56. Experiment Station Work.—I. Pp. 30.
58. The Soy Bean as a Forage Crop. Pp. 24.
59. Bee Keeping. Pp. 48.
60. Methods of Curing Tobacco. Pp. 24.
61. Asparagus Culture. Pp. 40.
62. Marketing Farm Produce. Pp. 31.
63. Care of Milk on the Farm. Pp. 40.
64. Ducks and Geese. Pp. 55.
65. Experiment Station Work—II. Pp. 32.
66. Meadows and Pastures. Pp. 30.

68. The Black Rot of the Cabbage. Pp. 22.
69. Experiment Station Work—III. Pp. 32.
70. Insect Enemies of the Grape. Pp. 23.
71. Essentials in Beef Production. Pp. 24.
72. Cattle Ranges of the Southwest. Pp. 32.
73. Experiment Station Work—IV. Pp. 32.
74. Milk as Food. Pp. 39.
77. The Liming of Soils. Pp. 24.
78. Experiment Station Work—V. Pp. 32.
79. Experiment Station Work—VI. Pp. 27.
80. The Peach Twig-borer. Pp. 16.
81. Corn Culture in the South. Pp. 24.
82. The Culture of Tobacco. Pp. 22.
83. Tobacco Soils. Pp. 23.
84. Experiment Station Work—VII. Pp. 32.
85. Fish as Food. Pp. 32.
86. Thirty Poisonous Plants. Pp. 32.
87. Experiment Station Work—VIII. Pp. 32.
88. Alkali Lands. Pp. 23.
91. Potato Diseases and Treatment. Pp. 15.
92. Experiment Station Work—IX. Pp. 30.
93. Sugar as Food. Pp. 31.
95. Good Roads for Farmers. Pp. 46.
96. Raising Sheep for Mutton. Pp. 48.
97. Experiment Station Work—X. Pp. 32.
98. Suggestions to Southern Farmers. Pp. 48.
99. Insect Enemies of Shade Trees. Pp. 30.
100. Hog Raising in the South. Pp. 40.
101. Millets. Pp. 30.
102. Southern Forage Plants. Pp. 48.
103. Experiment Station Wor—XI. Pp. 30.
104. Notes on Frost. Pp. 24.
105. Experiment Station Work—XII. Pp. 32.
106. Breeds of Dairy Cattle. Pp. 48.
107. Experiment Station Work—XIII. Pp. 32.
108. Saltbushes. Pp. 20.
109. Farmers' Reading Courses. Pp. 20.
110. Rice Culture in the United States. Pp. 28.
111. Farmers' Interest in Good Seed. Pp. 24.
112. Bread and Brkead Making. Pp. 40.
113. The Apple and How to Grow It. Pp. 32.
114. Experiment Station Work—XV. Pp. 28.
115. Hop Culture in California. Pp. 28.
116. Irrigation in Fruit Growing. Pp. 48.
118. Grape Growing in the South. Pp. 32.

119. Experiment Station Work—XV. Pp. 30.
120. Insects Affecting Tobacco. Pp. 32.
121. Beans, Peas, and other Legumes as Food. Pp. 38.
122. Experiment Station Work—XVI. Pp. 32.
124. Experiment Station Work—XVII. Pp. 32.
125. Protection of Food Products from Injurious Temperatures. Pp. 24.
126. Practical Suggestions for Farm Buildings. Pp. 48.
127. Important Insecticides. Pp. 46.
128. Eggs and Their Uses as Food. Pp. 40.
129. Sweet Potatoes. Pp. 40.
131. Household Tests for Detection of Oleomargarine and Renovated Butter. Pp. 10.
132. Insect Enemies of Growing Wheat. Pp. 38.
133. Experiment Station Work—XVIII. Pp. 32.
134. Tree Planting in Rural School Grounds. Pp. 32.
135. Sorghum Sirup Manufacture. Pp. 40.
136. Earth Roads. Pp. 24.
137. The Angora Goat. Pp. 48.
138. Irrigation in Field and Garden. Pp. 40.
139. Emmer: A Grain for the Semiarid Regions. Pp. 16.
140. Pineapple Growing. Pp. 48.
141. Poultry Raising on the Farm. Pp. 16.
142. Principles of Nutrittion and Nutritive Value of Food. Pp. 48.
143. Conformation of Beef and Dairy Cattle. Pp. 44.
144. Experiment Station Work—XIX. Pp. 32.
145. Cabon Bisulphid as an Insecticide. Pp. 28.
146. Insecticides and Fungicides. Pp. 16.
147. Winter Forage Crops for the South. Pp. 40.
149. Experiment Station Work—XX. Pp. 32.
150. Clearing New Land. Pp. 24.
151. Dairying in the South. Pp. 48.
152 Scabies in Cattle. Pp. 32.
153. Orchard Enemies in the Pacific Northwest. Pp. 39.
154. The Home Fruit Garden: Preparation and Care. Pp. 16.
155. How Insects Affect Health in Rural Districts. Pp. 19.
156. The Home Vineyard. Pp. 22.
157. The Propagation of Plants. Pp. 24.
158. How to Build Small Irrigation Ditches. Pp. 28.
159. Scab in Sheep. Pp. 48.
161. Practical Suggestions for Fruit Growers. Pp. 30.
162. Experiment Station Work—XXI. Pp. 32.
164. Rape as a Forage Crop. Pp. 16.

165 Silkworm Culture. Pp. 32.
166. Cheese Making on the Farm. Pp. 16.
167. Cassava. Pp. 32.
168. Pearl Millet. Pp. 16.
169. Experiment Station Work.—XXII. Pp. 32.
170. Principles of Horse Feeding. Pp. 44.
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