

THE PROGRESSIVE FARMER.

Consolidated, 1904, with The Cotton Plant, Greenville, S. C.

PROGRESSIVE FARMER—VOL. XX, NO. 40
THE COTTON PLANT—VOL. XXII, NO. 39

RALEIGH, N. C., NOVEMBER 14, 1905.

Weekly—\$1 a Year.

COTTON SEED: THEIR FERTILIZING VALUE AND THE PROPER BASIS OF EXCHANGE FOR MEAL.

The value of cotton seed for some time past has been of great interest, as is shown by the large number of letters on the subject which have come to us from Progressive Farmer readers. Cotton seed and cotton seed meal are very valuable, both for feed and for fertilizer. In the present article we will consider their value as fertilizers.

Users of fertilizers know what acid phosphate, kainit, other fertilizer materials and mixed fertilizers cost. The fertilizing value of cotton seed and cotton seed meal can best be shown by comparison with the above fertilizing materials. In fact, it is with these that they have to compete when they are put on the market for use as fertilizers, or when used at home as such.

Fertilizing Ingredients of Cotton-Seed Meal.

In fourteen per cent acid phosphate there are fourteen pounds of phosphoric acid (the valuable fertilizing constituent of the acid phosphate) in each one hundred pounds, or 280 pounds in one ton of two thousand pounds. At \$14 per ton, the phosphoric acid costs five cents per pound. Kainit carries about 12.5 per cent of potash, the fertilizing constituent of value in this material. One ton of kainit would contain 250 pounds of potash, which at \$13.50 per ton would make the potash cost 5.4 cents per pound.

Cotton seed meal in this State must contain not less than seven and a half per cent ammonia, or 150 pounds in the ton. When meal of this grade sells for \$25 per ton, and the phosphoric acid in it is valued at five cents per pound the potash at 5.4 cents (the price of these materials in acid phosphate and kainit), the ammonia would cost 13.5 cents per pound. On basis of this data:

One ton (2,000 pounds) cotton seed meal contains and is worth:

Ammonia, 150 lb @ 13.5c.	\$20.25
Phosphoric acid, 56 lb @ 5c.	2.80
Potash, 36 lb @ 5.4c.	1.95

Fertilizing value one ton cotton seed meal 25.00

In the above calculation we have allowed 2.8 per cent phosphoric acid, 1.8 per cent potash, in the meal. These constituents would have a value of \$4.75 and the ammonia \$20.25 one ton.

Allowing the same values for phosphoric acid and potash as given above, when the meal sells for \$26, the ammonia would be worth 14.2 cents per pound, and one (2,000 pounds) cotton-seed meal contains—and is worth—

Ammonia, 150 lb @ 14.2c.	\$21.30
Phosphoric acid, 56 lb @ 5c.	2.80
Potash, 36 lb @ 5.4c.	1.95

Fertilizing value one ton cotton seed meal 26.05

Value of Cotton-Seed for Fertilizer.

Using the same values for the three fertilizing constituents as assigned them above in cotton seed meal, selling for \$25 per ton, it will give:

One ton (2,000 pounds) cotton seed as containing and being worth as follows:

Ammonia, 75 lb @ 13.5c.	\$10.13
Phosphoric acid, 26 lb @ 5c.	1.30
Potash, 24 lb @ 5.4c.	1.30

Fertilizing value one ton cotton seed.... 12.73

When the ammonia in the seed is valued at 14.2 cents per pound (the price which is paid for it when meal is sold at \$26 per ton (one ton (2,000 pounds) of seed would contain and be worth—

Ammonia, 75 lb @ 14.2c.	\$10.65
Phosphoric acid, 26 lb @ 5c.	1.30
Potash, 24 lb @ 5.4c.	1.30

Fertilizing value one ton cotton seed.... 13.25

It is thus seen that cotton seed, pound for pound, have a little more than one-half the fertilizing value of meal. When the meal is high-grade, containing eight or more per cent of ammonia, it has more than double the fertilizing value of the seed.

For seed, \$13.25 per ton is about the same as twenty cents per bushel, and \$12.73 corresponds to 19.1 cents per bushel.

It therefore follows that the farmer who sells cotton seed at twenty cents per bushel and buys meal contained in the meal at the same price as that he carried to the mill in the seed. In like manner 19.1 cents per bushel for seed corresponds very nearly in fertilizing value to \$25 per ton for meal.

When seed are sold for 19.1 cents per bushel and meal bought at \$26 per ton, the farmer actually gives the oil man over fifty cents more in fertilizing value in the seed than he gets back in the meal. With seed at sixteen cents per bushel, the difference is even greater and no farmer can afford to sell seed at these prices and buy meal even at \$25 per ton.

Basis of Exchange of Seed for Meal.

Considerable quantities of seed are exchanged for meal at the oil mills, the rate of exchange being usually 1,100 to 1,400 pounds of meal for a ton of seed. It has been seen from the above that the one ton of cotton seed contains \$12.73 worth of ammonia, phosphoric acid and potash on basis of what is paid for these three constituents in acid phosphate at \$14, kainit at \$13.50, and cotton seed meal at \$25, per ton each.

What quantity of meal will contain these constituents to the same value as one ton of cotton seed?

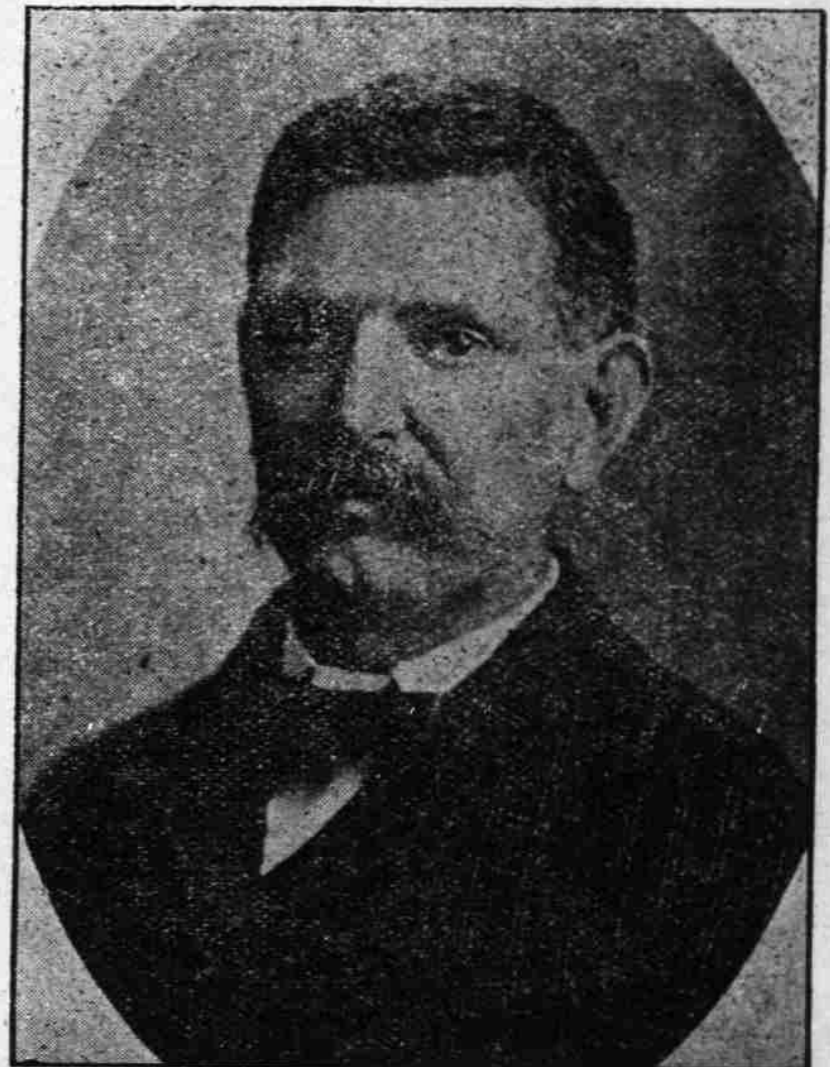
One thousand and nineteen pounds of meal, containing seven and a half per cent ammonia, will contain and be worth—

Ammonia, 76.4 lb @ 13.5c.	\$10.32
Phosphoric acid, 28.5 lb @ 5c.	1.42
Potash, 18.3 lb @ 5.4c.99

Fertilizing value of 1,019 pounds of cotton seed meal 12.73

which is the same as the fertilizing value of one ton of seed.

Whatever the farmer gets above this goes to pay him for the labor and expense of hauling and handling the seed and meal in making the exchange. These are items well worth consideration



One of the most valuable features of the Progressive Farmer and Cotton Plant is the Poultry Department, conducted by "Uncle Jo." We are printing a picture of "Uncle Jo" herewith, and in next week's paper a happy little sketch of his life will be given.

and enough meal above 1,019 pounds should be obtained in the exchange to make it worth the while of the farmer to make the exchange.

The oil-man gets about forty-five gallons of oil from a ton of seed, which varies in price from fifteen to thirty cents or more per gallon. As its selling price is not very high this season, even at fifteen cents per gallon the oil in a ton of seed will be worth \$6.75, but it has no value as a fertilizing material. It would then seem reasonable that the oil mill-man should be willing to give the farmer a reasonable share of the value of the oil contained in his seed. B. W. KILGORE.

Storing Potatoes and Other Root Crops.

The practice of storing winter potatoes in pits, or rather in earth covered heaps, is quite prevalent, and the method is as follows: A dry sheltered spot is selected, a layer of straw put upon the ground and a conical heap of potatoes laid upon the straw. Any desired number of bushels may be placed in the heap, but in case a large number, the heap should be ridge-shaped instead of round. The potatoes are covered with six or eight inches of straw, on which is placed a layer of earth five or six inches in depth. A second layer of straw is then used, on which is placed a second layer of earth, which is made smooth and firm. If a large quantity are to be stored in this manner it is well to allow some of the straw to project at the top, whether the heap be round or long, in order to afford ventilation. In extremely cold weather the heap is covered with litter of coarse stable manure, as potatoes are likely to be injured by freezing and thawing. Sometimes in excavation is made a foot or more in depth, so the potatoes are in part under ground. Unless care and good judgment are exercised there is likely to be damage resulting from excessive cold on the one hand or unreasonably warm weather on the other.