

Better Crops with Plant Food has a long history of highlighting innovations in nutrient management. It is well worth the effort to occasionally reach back into our archive spanning over 90 years to rediscover what was once discovered. It might be surprising what you find!

This is a summary of the original article published in January 1938 in *Better Crops with Plant Food* Vol. 22(1): p.21. The article describes field research testing the benefits of banded fertilizer placement over current practice in potato ...the accumulation of positive results were hard to ignore both by growers and farm equipment manufacturers.



Fertilizer Placement Influences Profit: A look back to 1938

By Lewis P. Watson, North Carolina College of Agriculture, Raleigh, North Carolina, USA.



North Carolina County Agent inspects the demonstration plot on the farm of one of his growers. The potatoes in front of him were fertilized according to the "old method", while those behind him by the new band method.

The six demonstrations were located in Beaufort, Camden, Currituck, and Pitt Counties and were under the supervision of the agricultural agent for each county. The plots were an acre in size, and the grower applied the fertilizer to the check plot according to his own practice. This was done by putting the fertilizer out in the drill with a distributor and then mixing it with a plow, followed by bedding. On the demonstration plots, the implement planted the seed, placed the fertilizer, and threw up the bed on the demonstration plot in one operation. The same machine was used to plant the seed on the check plot so that the quantity of seed and the depth of planting would be uniform on the two plots. The fertilizer distributor was disconnected for this operation on the check plot.

The accompanying chart illustrates the results of each demonstration. The average yield of No. 1's on all the check plots was 58.2 barrels (1 barrel = 165 lbs). On the demon-

SUMMARY

Six fertilizer placement demonstrations with potatoes in eastern North Carolina in 1937 proved that fertilizer placed to not injure seedlings, yet within ready access to feeder roots, will result in better crop stands and yields. The improved practice placed fertilizer in a band method to each side and slightly below the seed-piece level. The average yield increase was 15.2 barrels of No. 1 grade potatoes per acre over the check plot, which was fertilized by the old method of placing the fertilizer in the drill and mixing it with the soil before planting the seed.

KEYWORDS:

potato; side-banding

ABBREVIATIONS AND NOTES:

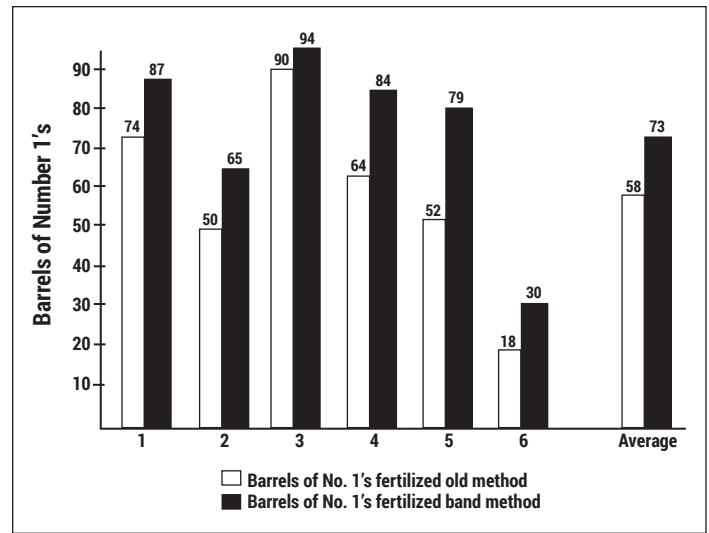
N = nitrogen; P = phosphorus; K = potassium; 1 barrel = 165 lbs.

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stration plots the average yield was 73.4. The average increase of 15.2 barrels of No.1 potatoes was characterized as an exceptional increase. In Camden County, where the highest yield was made, 2,200 lbs/A of 7-5-5 (N-P₂O₅-K₂O) was applied and planted in 3-ft rows. In Pitt County, where the most significant increase was made, the grower used 2,000 lbs/A of 5-7-5 and also planted in 3-ft rows. Demonstration plots used the same row spacings that were used in the grower's check plot, but applied the same amount of fertilizer in 2-inch bands, 2 inches to each side and slightly below the seed piece.

At the time, results in a number of crops from other States were coming to the same conclusion that yields can be increased by proper placement of fertilizer. In some instances, the efficiency of the fertilizer could be doubled if it is applied below and to the side of the seed-piece level.

Growers' increased interest in crop-specific fertilizer placement aroused considerable concern amongst farm implement manufacturers. The number of new machines permitting the control of the placement of the fertilizer in reference to the seed had begun to increase. Transplanting machines were also being equipped so that the fertilizer can be placed to the side of the plant and not directly under the



Banded fertilizer generated higher Irish potato yields at each of the demonstration trials conducted in North Carolina.

plant, as has been the custom. In quite a few cases these machines were constructed to provide for planting the seed and distributing the fertilizer at one operation. In this type of operation, a more definite control of the placement could be obtained. **BC**