

BIO SHOT AND NPK REDUCTION ON CORN YIELD, MEMPHIS TN, 2019

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A 10x30 ft. plot, four replicated trial, was carried out in P1316YHR corn, planted on June 1 and harvested August 28, 2019, at Agricenter International in Memphis, TN, on a pH 6.4, 2.2% OM, good fertility and drainage, Falaya silt loam soil. In-furrow application of Bio Shot was done at planting, and foliar spray, on July 5, 2019, at 34 days after planting (DAP). Data was analyzed by linear multiple regression, with SPSS.

Estimated shelled corn yield by % NPK & overall rate Bio Shot. Memphis, TN, 2019.

NPK %	Bio Shot (# appl. x ml/ac)	yield* bu/ac	yield increase		Added income	NPK saving	Added cost	Net revenue
			bu/ac	%				
100	0	182.7	-	-	-	-	-	-
100	40	194.4	11.7	6	46.88		7.50	39.38
50	80 (2 x 40)	188.5	5.9	3	23.44	56.00	15.00	64.44
75	80 (2 x 40)	195.8	13.2	7	52.74	28.00	15.00	65.74
100	80 (2 x 40)	206.1	23.4	13	93.76		15.00	78.76

*Yield (bu/ac) = (0.0000293 x (NPK)² x Bio Shot) + 182.65. F=10.099. Sig.= 0.003.

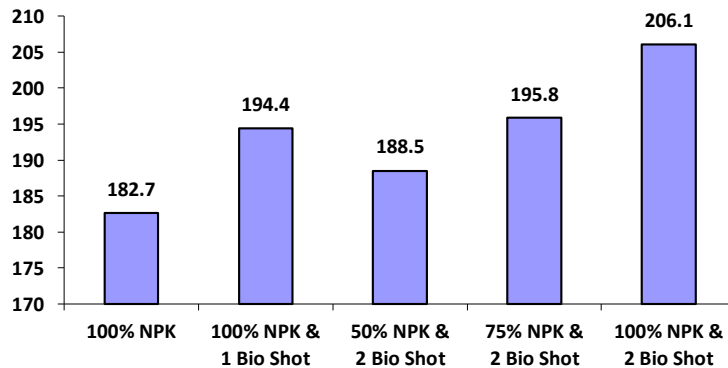


Fig. 1. Shelled corn yields by % NPK and # Bio Shot sprays.

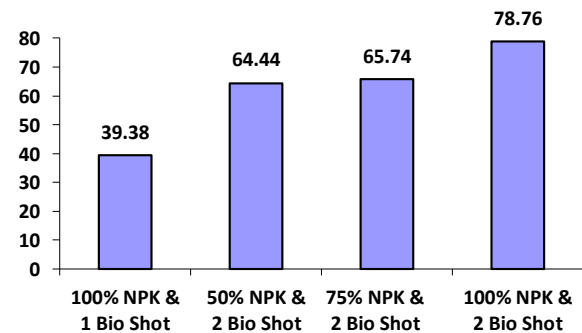


Fig. 2. Net revenues by % NPK & # Bio Shot sprays.

The highest yields (23.4 bu/ac or 13% above 100% NPK without Bio Shot) and highest net revenues (\$ 78.76/ac) were recorded with 100% fertilization combined with 2 applications of Bio Shot (Table & Figs.)

The above was followed by 75% & 50% NPK, both combined with 2 Bio Shot applications: \$65.74/ac & \$64.44/ac net revenues, resulting from 13.2 & 5.9 bu/ac or 7 & 3% yield increases above 100% NPK without Bio Shot and 28 & 56 \$/ac NPK savings, respectively (Table & Figs.).

All above were followed, in net revenues, by 100% NPK combined with 1 Bio Shot application: \$39.38/ac, resulting from 11.7 bu/ac or 6% yield increase above 100% NPK without Bio Shot (Table & Figs.).