Soybean Canopy Closure

Season – 2019

Study Information

Study was established at Arlington Agricultural Research Center, at field 301. Before planting, plots were tilled with chisel plow at a depth of about 5-6” and field cultivated for seedbed preparation. Early planting time was done on 04/25/2019, with narrow (15”; 7 rows) and wide (30”; 4 rows) plots of soybean. Seeding rate was 140 000 seeds/acre. Planted plots were sprayed day after planting (04/26/2019) with Fierce (flumioxazin + pyroxasulfone; 3 oz/ac) and Tricor 4F (metribuzin; 6 oz/ac), calibrated to deliver volume of 15 GPA, @37 psi with TTI (11002) nozzles at height of 20”. During application, air temperature was 59F, soil temperature 60F, relative humidity @39%. Cloud cover was about 5% with average wind speed of 13mph (range 12-15.5 mph), from N-NW direction.

Field 301 did not have soybeans planted since 2000. Therefore, inoculant needed to be sprayed over the soil. Amount of inoculant needed to be applied was 19.4 mL. Because of method of application, the rate was increased 10x to increase the chance of proper application to the soil. Rainfall event happened in the evening after application was done. Calibration parameters were following: GPA 20, 44psi, 20” height, TTI nozzles. Water used in 3-gallon tanks was of distilled properties, to avoid chlorine killing Rhizobia.

5/17/2019 – First soybeans observed cracking through the ground. [first planting time]

5/31/2019 – First soybean observed cracking through the ground. [second planting time]

* Glyphosate (Ryan) – applied 22 fl oz + 8.5 Lb/100 gal AMS (5/9/2019)
* Glyphosate – applied to burn down weeds in no-pre plots (@ 22 fl oz + 8.5 Lb/100gal of AMS)
* Canopeo injury (Early Planting) – 6/14/2019
* Counts – started after first soybeans were observed cracking (per planting time, respectively)