

## Variable Rate Soybean Planting Demonstration: Part 2 - Emergence

A variable rate soybean demonstration was planted near Thamesford ON on May 17, 2019. The variable rate prescription was designed using [Granular Imagery](#). This prescription varied from 140,000-200,000 seeds per acre (Figure 1). The water limiting sandy soils are the most limiting factor on this farm. On June 6<sup>th</sup>, 2019 we conducted an extensive stand count evaluation to determine the effectiveness of our prescription.

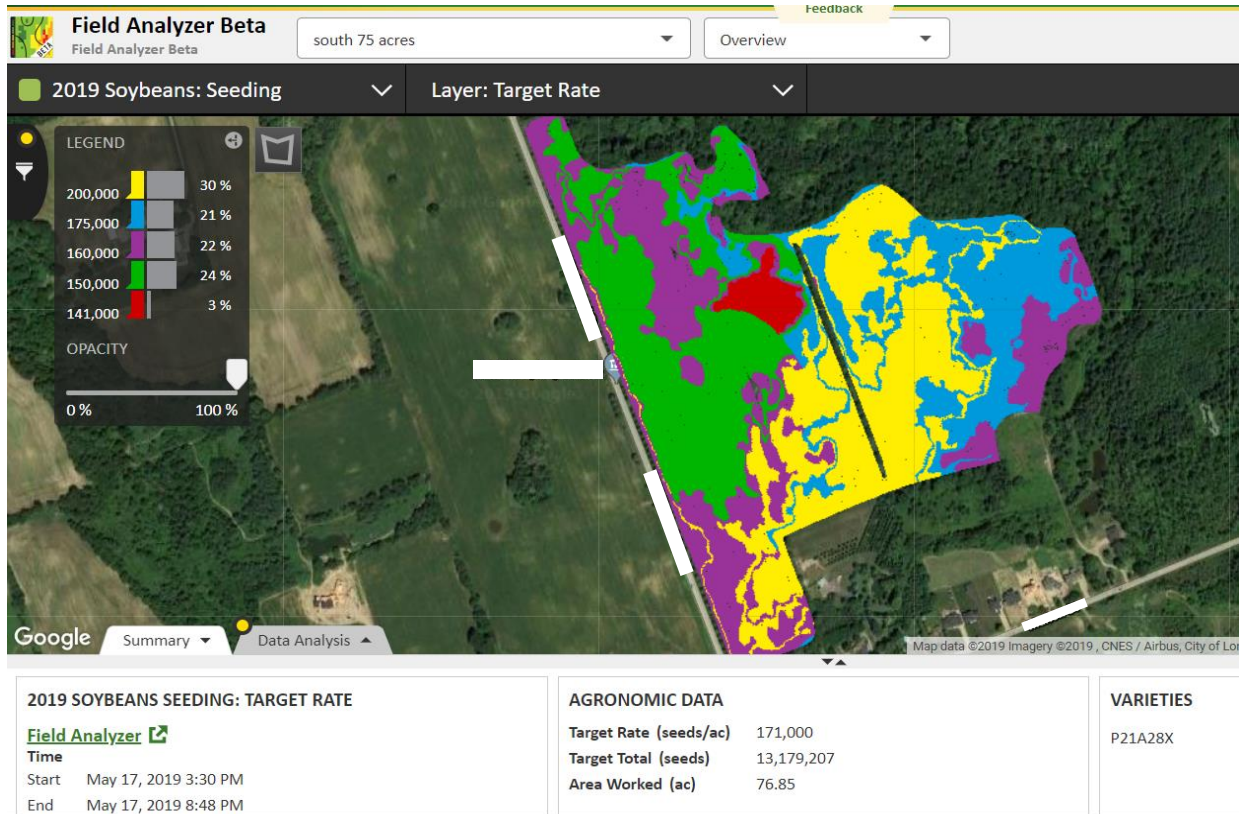


Figure 1: Variable Rate Soybean Prescription, showing target rate as visualized in John Deere Operations Center

In order to record our stand counts we utilized the John Deere MyOperations app. This app provides functionality that allows you to drop flags, record notes and photos at specific georeferenced coordinates (Figure 2).

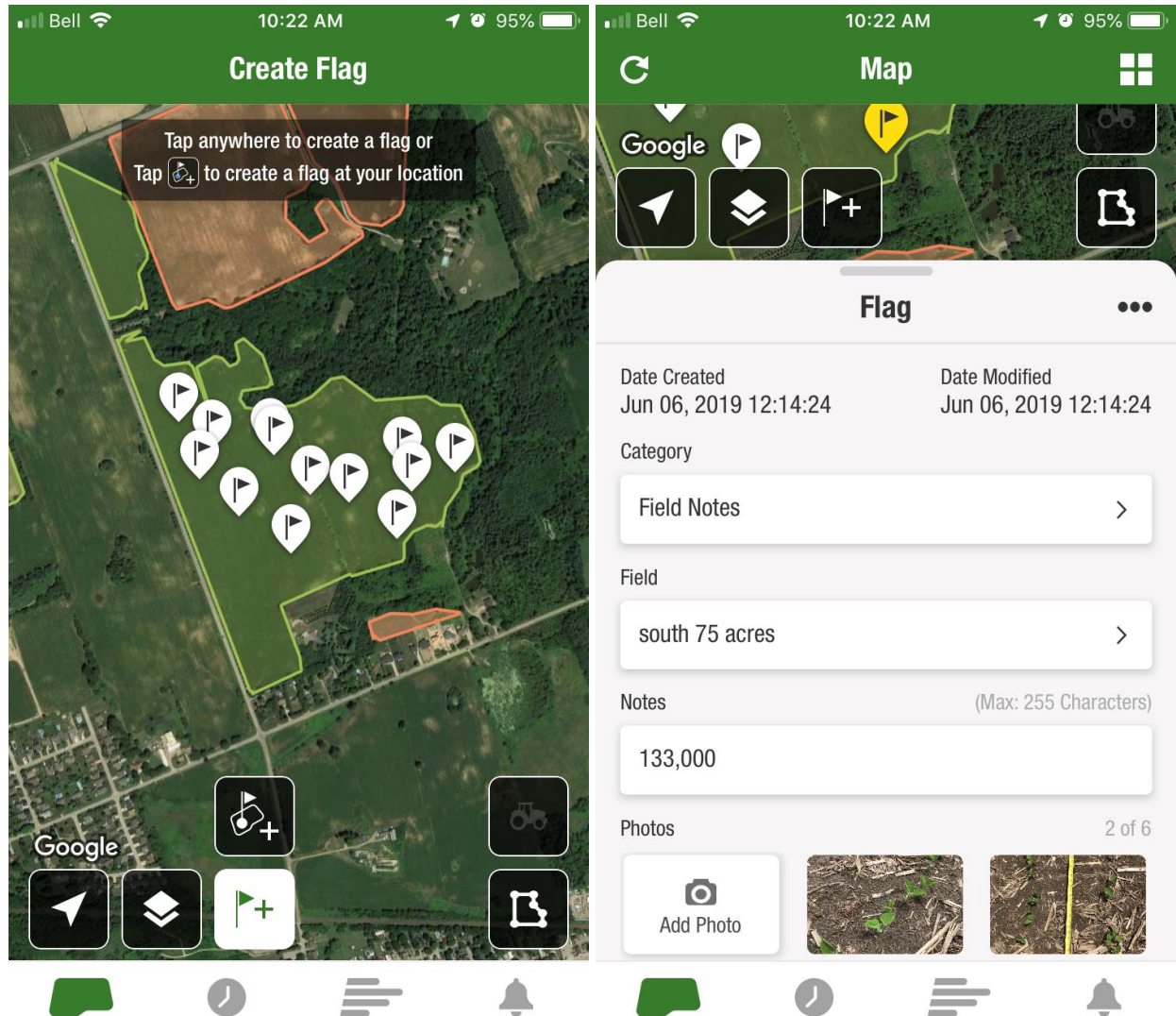


Figure 2: Creating Flags in the John Deere MyOperations App

The flags can be overlaid with our as applied seeding, and our target rate map. This allows us to calculate the % of seed emerged by knowing exactly which zone we were in. These maps also helped us direct our scouting in the field so we knew which zones to walk to.





Figure 3: Flags generated while scouting overlaid with target rate map and as applied rate map.

Overall, our planter performed very well. The percentage of seeds emerged of the target rate ranged from 79-96%, averaging 87% across the 11 samples collected (Table 1). Overall, emergence was very consistent throughout the farm, and most plants were at the VC – cotyledon stage. We aimed for 2" seed depth placement, and with the active individual row hydraulic downforce our depth was very consistent.

*Table 1: Emerged seeds and prescribed seeds from 11 samples across the variable rate soybean demo. The % of seeds emerged is the ratio of the emerged versus prescribed seeds.*

Sample	Emerged	Prescribed	% Emerged
1	134000	150000	89%
2	140000	160000	88%
3	118000	150000	79%
4	177000	200000	89%
5	170000	200000	85%
6	132000	140000	94%
7	191000	200000	96%
8	133000	160000	83%
9	131000	160000	82%
10	139000	160000	87%
11	124000	150000	83%



*Figure 4: Left: Image showing stand counts being conducted. Right: Image showing VC-cotyledon staging of soybean plants*