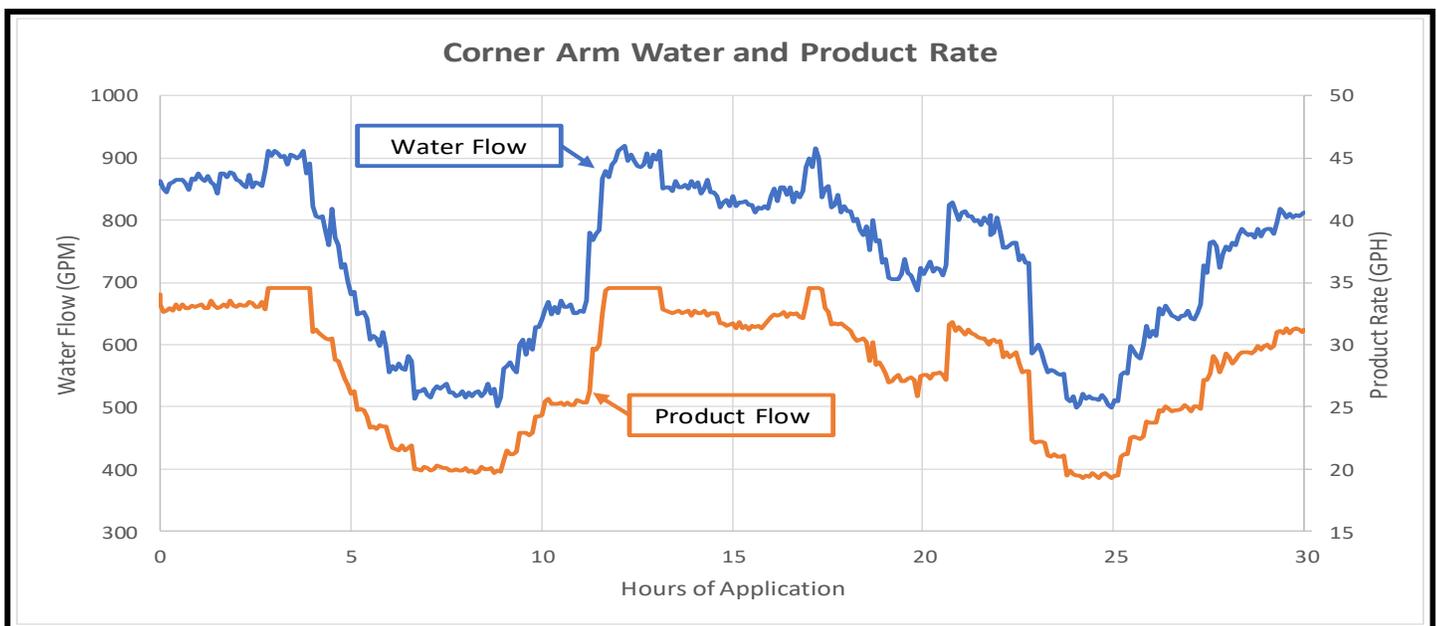




SureFire Marksman provides accurate fertigation and chemigation on Corner Arm and End Gun Pivots

- A 1,250 foot pivot with a 250 foot corner arm will have a 30% under application of product when the arm is fully extended.
- End gun with 100 foot reach will have a 15% under application on a 1,250 foot pivot.

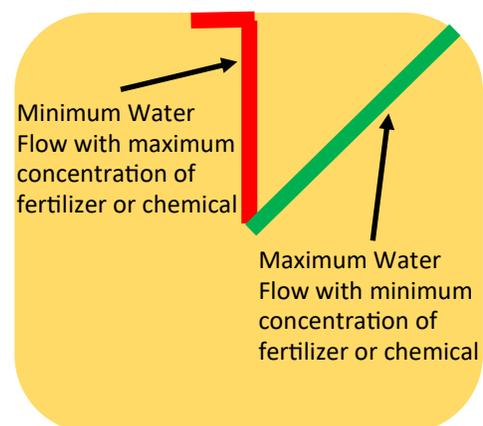
The SureFire Marksman varies the product flow proportionally to the water flow rate. Marksman measures the product flow and water flow, then controls pump speed to maintain a constant concentration of product in the irrigation water.

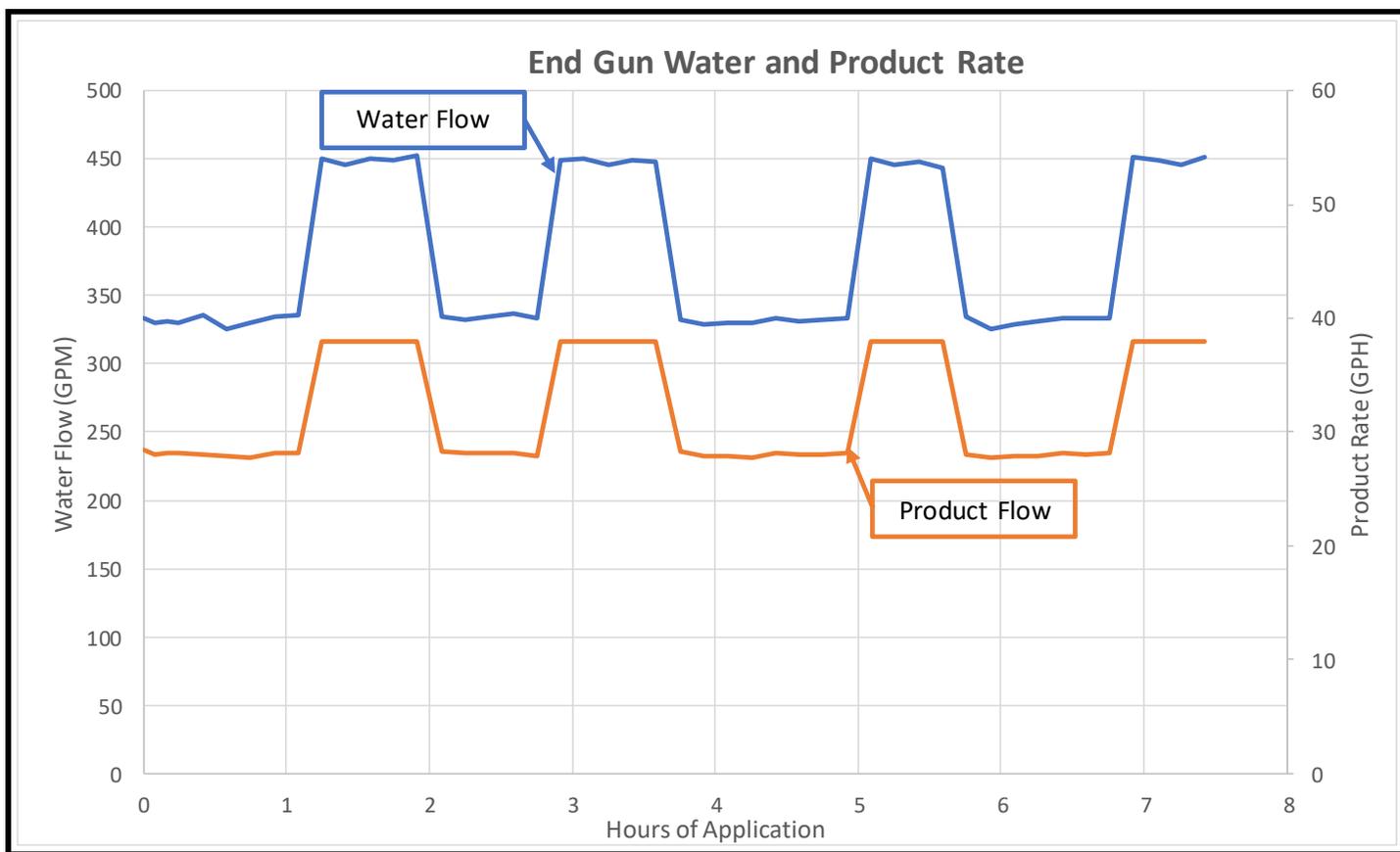


The graph above is Marksman data from a corner arm irrigated field. This pivot was 960 feet with a 375 feet dual corner arm length. You can see the water flow varied from 500—900 GPM. The Marksman was set to apply a rate of 34.5 GPH at 900 GPM water flow. By hooking the Marksman up to the water flowmeter and using proportional control, the Marksman varied the fertilizer rate from 19.3—34.5 GPH. This maintained a constant product concentration in the irrigation water of 0.064%.

Without Marksman the product concentration would have varied from 0.051% to 0.094% as the corner arm turned on and off, resulting in applying 79% - 147% of the correct rate.

Corner Application without Marksman





The graph above is Marksman data from a end gun pivot irrigated field. You can see the water flow varied from 330—450 GPM. The Marksman was set to apply a rate of 38 GPH at 450 GPM water flow. By hooking the Marksman up to the water flow-meter and using proportional control, the Marksman varied the fertilizer rate from 28-38 GPH. This maintained a constant product concentration in the irrigation water of 0.140%.

Without Marksman the product concentration would have varied from 0.117% to 0.163% as the end gun turned on and off, resulting in applying 83% - 116% of the correct rate.

Pivot Length	Corner Arm / End Gun Length	% Reduced Application with Corner On
1200	100	15%
1200	150	21%
1200	200	27%
1200	250	32%
1200	300	36%
1200	350	40%