

SMART

SOYBEAN MANAGEMENT & RESEARCH TRANSFER

Hosting the first Soybean Management and Research Transfer (SMART) Day on July 22nd was the highlight of the summer for MPSG! Held at the Ian N. Morrison Research Farm in Carman, this all-day educational event allowed farmers and agronomists to sharpen their soybean management skills. Participants toured research plots and interacted with researchers and extension specialists working to deliver the MPSG funded agronomy research program.



Gustavo Bardella & Dr. Don Flaten – Soybean phosphorus (P) management presents some unique challenges. Gustavo and Dr. Flaten, advocated using the 4R nutrient stewardship program to maximize soil fertility to benefit not only soybeans, but a grower's entire rotation. Results from their research show that soybeans may not respond to applied P fertilizer in Manitoba soils, but they remove a significant amount of P which must be replaced in the crop rotation in order to maintain soil P levels and support good soybean yields.



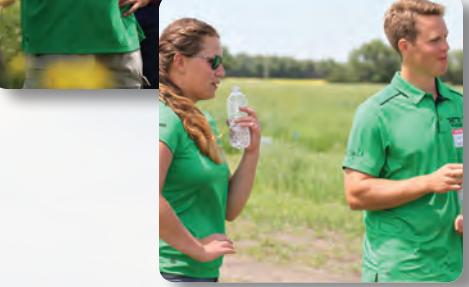
Dr. Mario Tenuta – Soybean cyst nematode (SCN) may not yet be in Manitoba, but it is a major pest concern just south of the border. Dr. Tenuta, who surveys and tests for SCN in Manitoba, had participants practice identifying the pest and discussed prevention and management strategies for dealing with SCN, including crop rotation, sanitation practices and growing varieties with genetic resistance. This station was a big hit with participants because it was the first time they had seen actual cysts on soybean roots!



Greg Bartley – Greg asked participants to walk into residue management plots and observe differences in residue left behind in no-till, conventional till, strip tillage and fall rye cover crop plots. He discussed differences in temperature, moisture and crop emergence among treatments and the feasibility of adapting high residue/minimum tillage systems for soybeans in Manitoba. Visually, participants could see little difference in soybean productivity between different tillage systems. This was supported by Greg's data which showed no significant increase in soil warming with tillage in light-textured soils. The strip-till implement used in the trial was on display.



Don Sanders – Continuing on the theme of phosphorus, Don discussed how preceding crops can affect mycorrhizal associations in soybean crops – just one of the factors that should be considered when determining the best crop to plant before soybeans. Don compared planting wheat, corn, soybeans and canola before soybeans and found that soybean yields were more consistent when grown after wheat or corn, likely due to reduced disease risk compared to canola or soybean, which reflects what the majority of farmers in Manitoba practice.



Dr. Rob Gulden & Charles Geddes – An overview of their studies investigating volunteer canola management in soybean was provided. The importance of an integrated weed management system to prevent the herbicide resistance problems that have devastated parts of the mid-western United States was also discussed. Participants were encouraged to keep an eye out for kochia, waterhemp, false ragweed and giant ragweed – all weeds that have developed glyphosate resistance in North Dakota. In terms of volunteer canola, a more current weed control challenge, Dr. Gulden presented data on economic thresholds and showed participants the efficacy of various herbicides.

Laura Schmidt introduced her new project that will evaluate row spacing and plant population in both navy and pinto beans. Her goal is to determine the optimum combination of row spacing and plant population for weed suppression and yield.



Dr. Martin Entz & Michelle Carkner – Dr. Entz proposed opportunities to venture into organic soybean production given current market demand, availability of new non-GM varieties and increasing agronomic information on how to manage weeds. Michelle toured participants through her non-GM soybean variety trial which was managed with pre-emergence harrowing and inter-row cultivation. There were clear differences between varieties in their ability to compete with weeds.



Marla Riekman – Soil and water management is an important aspect of soybean production in Manitoba – particularly when it comes to iron deficiency chlorosis (IDC). Marla's lesson taught participants the science behind how salinity, carbonates and water all play a role in the occurrence of IDC in soybeans. Various management options including water management and variety selection were also discussed.



Thank You

MPSG would like to thank all of our sponsors and volunteers that contributed to the success of SMART Day.

"I've learned more here than probably what I learned in a month at university."
— Rauri Qually

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As seen in the Manitoba Cooperator on August 6, 2015.