Farm yields of soybeans have been relatively stagnant over the past two decades in Ontario. Current agronomic recommendations in Ontario are based on research with relatively narrow objectives that focus on simple effects of a few factors at a time. High-yield contests have gained immense popularity and have focused on intensive management practices that may or may not be profitable. Management needs to consider additive and synergistic effects on yield, seed quality, and profitability. This project studied the possible additive effects of inputs on different varieties as well as the effects of late-maturing bean varieties for a given region. A “kitchen sink” approach was applied at the field-scale level to assess the impacts of multiple inputs on soybean yields and seed quality. This treatment package was also broken down into its individual components and applied on eight different varieties on small plots by the University of Guelph.

Methods
Field-scale treatments included:
• Adapted variety – Untreated
• Adapted variety – *Kitchen Sink
• +1 maturity zone (+200 crop heat units) maturity variety – Untreated
• +1 maturity zone (+200 crop heat units) maturity variety – *Kitchen Sink

The Untreated treatment included untreated seed, no inoculant, and no added fertilizer. Soil tests at all sites indicated adequate phosphorus and potassium levels. The *Kitchen Sink treatment consisted of Cruiser Maxx seed treatment, Hi Coat inoculant, Quilt (a.i. of azoxystrobin + propiconazole) foliar fungicide, a higher seeding rate (250,000 seeds/ac), 50 lb/ac of nitrogen in the form of ESN and ammonium sulfate, 3 gal/ac of 2–20–18 liquid applied in furrow, 6 L of SRN (slow-release nitrogen), and 2 L of 3–16–16 foliar fertilizer. The +1 maturity zone (+200 crop heat units) refers to a variety that is one maturity zone longer than recommended for the given area.

Trials were established at 15 sites across southwestern Ontario from 2011–2013 on a range of soil types. Sites changed between years, and previous crop was corn at all locations. The majority of field sites were no-till planted using 15-inch planter.

Results
Planting a longer-maturing soybean variety provided 2.1 bu/ac more yield across the three years of this study. The *Kitchen Sink approach added another 4.9 bu/ac on average across the three years of this study. The results were extremely consistent across locations and years. The cost of the *Kitchen Sink approach in this study was approximately $140/ac. The parallel small-plot research trials conducted by the University of Guelph that tested eight different varieties at each site showed a response of up to 10 bu/ac with some varieties. Extending the maturity by growing a variety that was one maturity zone longer than recommended was an effective way of increasing yields without added input costs.

Table 1 shows the yield averages for each treatment, and Table 2 reports the results of the seed analysis. There was no statistical difference in moisture, oil, protein, or visual seed quality on average across the sites. There was a slight seed size increase in the *Kitchen Sink treatment in this study. The seed size was also slightly larger for the longer-day bean varieties. This could explain part of the increased yield.

On average, there was no impact on seed germination as a result of the *Kitchen Sink treatment be-