

**Example Commercial Soybean Improvement Program** featuring New Line Development and New Line Evaluation (adapted from Bernardo 2010)

<b>SEASON<sup>1</sup></b>	<b>ACTIVITY</b>
Winter 0	Make breeding crosses
Summer 1	Self or BC each population
Winter 1a <sup>2</sup>	Grow 200 F2 or BC1 populations (i.e. S0 generation) that have been formed in previous years Advance the S0 plants to the S1 generation by a modified single-seed-descent method, retaining single pod (instead of a single seed) with 2-3 seeds; bulk by population
Winter 1b	Plant S1 seed bulk; Select 200-500 plants (~350 per population) and save selfed (i.e. S2) seed
Summer 2	Yield trials for 70,000 S2 families (across all populations) in unreplicated trials at 1-2 locations; Select the best 5,000 based on yield performance; Save S3 seed from the trials
Summer 3	Yield trials for 5,000 S3 families at 3-5 locations; Select the best 200 based on yield performance; Save S4 seed from the trials
Summer 4	Yield trials for 200 S4 families at 15-25 locations; Select the best based on yield performance; code selected as 'experimental' lines; Save S5 seed from the trials
Winter 4	Increase seed of experimental lines
Summer 5	(1) Yield trials of experimental lines at 20-40 locations (2) On-farm strip tests (i.e. 150-300 m <sup>2</sup> plots) at 20-100 locations
Summer 6	(1) Yield trials of advanced lines at 20-50 locations (2) On-farm strip tests (i.e. 150-300 m <sup>2</sup> plots) at 30-500 locations
Fall	Release 0-5 new varieties

<sup>1</sup> Summer represents the main growing season, winter denotes off-season activities; number after season indicates the year in the development pipeline

<sup>2</sup> Winter nurseries may be grown back-to-back in the same winter season