

**Supplementary Table 1.** List of sixty-eight selected soybean lines for mixed cropping with corn on the same row from 349 soybean germplasms in 2014.

Soybean lines		
IT022058	IT161846	IT167282
IT022073	IT161988	IT170991
IT022075	IT162018	IT170993
IT022259	IT162019	IT171009
IT022260	IT162034	IT171014
IT023035	IT162035	IT171019
IT023102	IT162160	IT171039
IT023236	IT162286	IT171044
IT023319	IT162316	IT171119
IT024186	IT162379	IT171170
IT024280	IT162404	IT171211
IT024286	IT162511	IT171259
IT024324	IT162577	IT171302
IT024380	IT163450	IT173077
IT142730	IT165240	IT173094
IT142751	IT165292	IT175833
IT161492	IT165297	IT229785
IT161671	IT165323	IT229942
IT161724	IT165328	IT274187
IT161758	IT165465	IT274586
IT161819	IT165490	IT274591
IT161837	IT165494	K131738
IT161844	IT167209	

**Supplementary Table 2.** Instrumental conditions of high performance liquid chromatography (HPLC) and gas chromatography (GC) for lactic acid and acetic acid.

Item	HPLC	GC
Column	C18 (25 cm)	DB-FFAP (30 m × 250 μm nominal)
Column temp.	40°C	100°C to 200°C (increase 10°C/min)
Injector temp.		230°C
Detector	UV Detector	FID detector, 230°C
Flow rate	MP: 0.01N H2SO4 Flow rate:1.0 ml/min.	H <sub>2</sub> 40 mL/min. Air 400 mL/min. N <sub>2</sub> 56.5 mL/min.
Sample vol.	20 μl	10 μl