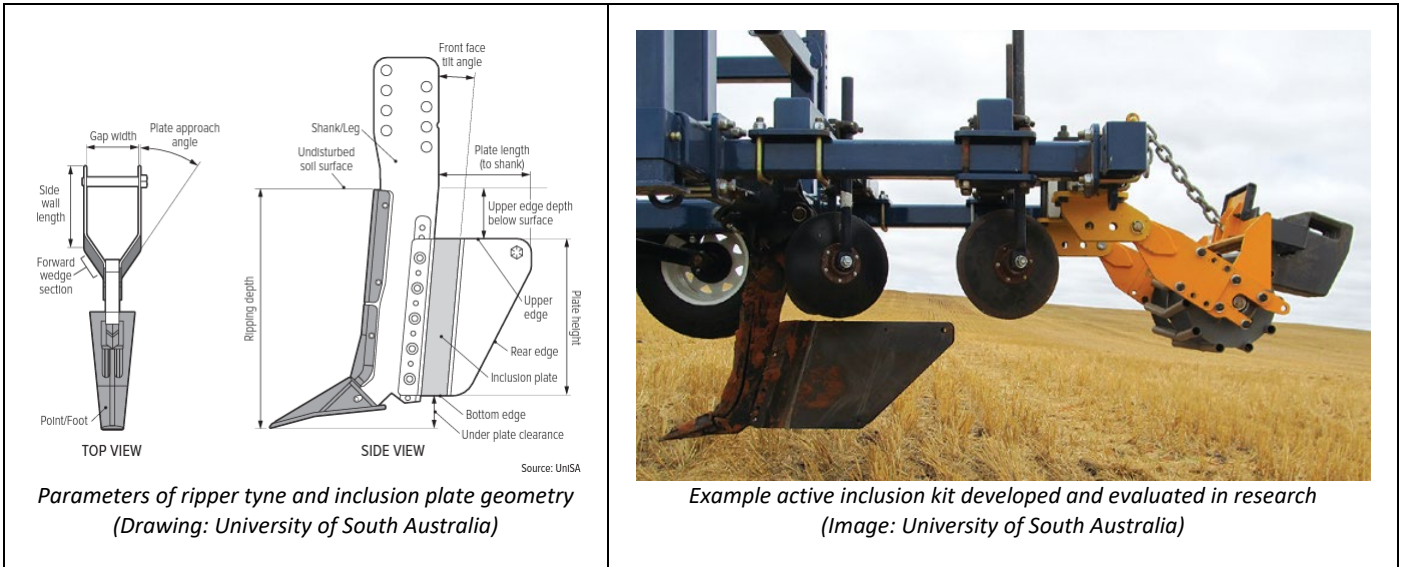


Inclusion Ripper



Key points:

- Inclusion ripping is designed to drop significant amount of topsoil deep into the rip-line during the process of deep ripping. The process uses 2 side plates bolted behind the ripper tine and braced to keep a wide cavity open for long enough to enable the inclusion process.
- The included topsoil provides a higher fertility pathway through bleached and/or hardsetting sandy layers to deeper clay below.
- Dry flowable topsoil, slow ripping speed and long inclusion plates maximise the amount of topsoil inclusion. Commercial inclusion plates provide lower inclusion capacity than those evaluated in research.
- Inclusion ripping is a higher drawbar power and soil disturbance operation compared with conventional deep ripping.
- Work rate of a 6m wide inclusion-ripper operating at 500mm depth and 4-5 km/h vary in the range of 2.2-2.8 ha/hr with an estimated cost of \$100-120/ha.
- An active inclusion process can be achieved by adding tools to guide and assist the topsoil backfilling the cavity as well as consolidating and levelling the rip-line to achieve a seeder-ready finish. Active inclusion is not yet commercial.
- Inclusion ripping may enhance the incorporation of lime into sub-surface layers to treat acidity. Assess soil pH after amelioration.

Further information:

GRDC factsheet:

<https://grdc.com.au/resources-and-publications/all-publications/factsheets/2022/inclusion-ripping-technology-national>

