

***A suggested Operating Procedure
for lowering on-farm greenhouse gas emissions***

Operating Procedure:	On-farm greenhouse gas emission reduction
Significant Environmental Aspect / Impact:	greenhouse gas emissions from farm machinery; nutrient losses
Legal requirements	None
Reference Documents:	Machinery maintenance manuals; Better Fertiliser Use pamphlets from DPI, MLA Fertiliser course notes Best practices from www.nitrogen.unimelb.edu.au
Procedure Communicated to: by:	Those choosing types & timing of fertiliser, esp nitrogen applications Those selecting breeding stock
Process for Review of This Procedure:	Review annually

Steps you will commit to: (alter this section to document what you will do on your farm)

Most fuel-efficient equipment use:

- update to more fuel-efficient, lower-emission combustion engines
- maintain maximum machinery operating efficiency, by regular maintenance to at least manufacturer's minimum intervals and recommendations (e.g. emission control checks, tune-ups, fuel systems cleaning, filter & oil changes)
- use least horsepower-rated equipment for the purpose (e.g. use an ATV, or ute rather than tractor)
- reduce percentage of start and warm up emissions in total emission from combustion motors, by saving up tasks until machine operating period is at least 20 minutes

Best practice nitrogenous fertiliser practice:

- choose fertiliser containing ammonia instead of nitrates
- avoiding applying nitrogenous fertiliser when soils are warm and/or waterlogged
- avoid applications of nitrogenous fertilisers to non-north-facing slopes during warmer seasons
- apply nitrogenous fertilisers only when rye plants are at least 2-leaf stage, cocksfoot at 3-leaf

Other

- strategies to increase soil aggregate size
- decrease age of breeding herd
- reduce stocking rate
- select & cull cattle to improve herd's feed conversion efficiency
- match energy to protein in feed throughout all seasons
- add small quantities of black wattle bark(tannin), in water or meal, during spring & winter
- provide access to black wattle plants for light grazing
- add small quantities of unsaturated oils to feed in summer
- choose feed additive oil sources that are waste or byproducts, over prime production

Monitoring required	<p>Feed conversion records for herd lines. Potential sites for waterlogging, pugging. Fertiliser needs, use and results</p> <p>How well contractors are following instructions</p>
Records kept	<p>Annual estimates of farm emissions for activity segments (e.g. fertiliser, energy, fuels)</p> <p>Soil tests & carbon level changes</p> <p>Fertiliser applications, components, rates, dates of application, conditions during application</p> <p>Terminal animals' weight gains from birth to kill</p>
Procedure Authorised by:	