Growing legume FALLOW CROPS

This technical sheet has been prepared by Herbert Cane Productivity Services Ltd (Lawrence Di Bella, Richard Hobbs & Megan Zahmel) however the content is applicable to all other regions with the exception of the Burdekin.

TRACTOR CHECKLIST FOR GROWING FALLOW LEGUME CROPS

1. **Check your soil pH –** A soil pH should be above 5.5 to grow legumes successfully. If not – apply amendments (like a lime-based product). Remember that lime will take up to four months to shift pH values.
2. **Pre-form mounds –** This keeps legumes from waterlogging during the wet season. Legumes are prone to Phytophthora, Pythium and other bacterial and fungal diseases. By pre-forming mounds, you can reduce your risk to these diseases and ensure legume survival over the wet season.
3. **Use the right Inoculant for your legumes –** Getting good coverage of the right inoculant for your legumes is essential:

LEGUME INOCULANT SELECTOR	
INOCULANT	**LEGUME**
"H" Soys	Soybean
"I" Mung Bean	Cowpea and Mung Bean,
"J" Lab Lab	Dolichos Lablab and Pigeon Pea
"M" Siratro	Sunn Hemp and Velvet Bean
"N" Chickpea	All Chickpeas
"P" Peanuts	Peanuts

4. **Plant Legumes -** either with a bean planter (for all seed types) or spinner spreader & harrow, (for harder seed types). Soybeans germination and establishment is significantly better when planted with a bean planter. Consider planting depth before planting with a bean planter.

   Depending on your requirements the following are examples of common mixed fallow options. Recommended planting rates for each mix is 30 kg seed to the hectare (kg/ha).

SEEDS PLANTED	TRADITIONAL MIX (KG/HA)	MIXED PLANTING MIX (KG/HA)	BIODIVERSITY MIX (KG/HA)	HIGH BIOMASS MIX (KG/HA)
Cowpea cv. Ebony or Calypso	10-15	10	12	7
Lablab cv. Rongai and 527	10-15	12		9
Soybean cv. Leichardt or A6785 or Stuart			12	7
Sunn hemp		8		7
Sunflower			2	
Tillage radish			2	
Tropical mustard			2	

Note: sunflower, tillage radish and tropical mustard are not legumes.

5. **Spray out volunteer cane and grasses –** present in legume crops with Verdict @ 0.4-0.8L/ha rate (depending on the variety being targeted).
6. **Grow legumes for 3 to 4 months –** depending on soil moisture content. Terminate fallow crops before soil moisture is depleted for the subsequent cane or rotational crop and before seed is set. This is an important step and needs to be monitored and managed well. Aerial spraying out your legumes is another option for terminating the crop if you are unable to get onto the block.
7. **Stubble Management**

   Option 1 – Crimp roll or slash down legumes. When legume growth returns, spray out with knockdown herbicides and leave for two weeks. Incorporate legume stubble into soil, approximately two - four weeks after herbicide application (depending on soil and stubble moisture content), just prior to planting sugarcane.

   Option 2 – Spray out legumes and leave standing until they have dried down or you are ready to incorporate into soil. (This method gives you more time between legume and cane). Delay the incorporation of dead stubble if possible before planting, to maintain the maximum amount of nitrogen for the subsequent crop.
8. **Assessing the effectiveness of nodulation**

   Dig up your legumes to assess if nodules are present. Press legume nodules between your fingers and a pink coloured exudate should be present. This pink colour exudate indicates the nodules are effectively fixing nitrogen.

For further agronomic advice contact:
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