

(vii) LUCERNE - KUDIRAI MASAL (*Medicago sativa*)**A. CROP IMPROVEMENT****I. SEASON AND VARIETIES**

Zone District/Season	Month	Variety
Irrigated		
Coimbatore, Thiruppur, Erode, Krishnagiri and Dharmapuri	Throughout the year	CO 2 and CO3

II. PARTICULARS OF LUCERNE VARIETY

PARTICULARS	CO 2	CO 3
Year of Release	2013	2017
Year of Notification	SO.268(E)/28.01.2015	SO. 1498 (E) / 0104.2019
Parentage	Polycross derivative involving CO 1	Polycross derivative involving CO 1
Duration (Days)	Perennial	Perennial
Green fodder yield (t/ha/year)	120.6 (14 harvests)	115 days (12-14 harvests)
Seed yield (kg/ha)	240-250	200-230
Morphological characters		
Plant height (cm)	70-80	75-80
No. of branches per plant	15-20	15-20
No. of pods per plant	18-20	20-22
No. of seeds per pod	4-6	4-6
Quality characters		
Protein content (%)	23.5	22.4
Dry matter (%)	16.8	17.0
Dry matter yield (t/ha/year)	20.16	21.94
Crude fibre (%)	19.0	19.0
Phosphorous	0.45	0.43
Potassium	3.83	3.75
Calcium	1.89	1.90
Magnesium	0.37	0.32
Iron	420	410
Zinc	288	220

B. CROP MANAGEMENT

I. GREEN FODDER PRODUCTION

1. Soil

Well drained black cotton soils are well suited. It can be raised in alkaline soils also.

2. Preparatory cultivation

Plough three or four times with iron plough to obtain good tilth. Form beds of size 10 m² or 20 m² depending on the availability of water and slope of land.

3. Nutrient management

- Spread FYM or compost at 25 t/ha and incorporate the manure into the soil during ploughing.
- Apply NPK fertilizers as per soil test recommendations as far as possible. If soil testing is not done, follow the blanket recommendation of 25:120:40 kg NPK/ha.
- Apply the full dose NPK of 25:120:40 basally before sowing.

4. Sowing

- Seed treatment: Treat the seeds with 3 packets (600 g) of *Rhizobium* and 3 packets (600 g) *Phosphobacteria* before sowing.
- Seed rate: 20 kg/ha. Good quality seeds free from *Cuscuta* seeds should be used.
- Spacing: 25 x 10 cm

5. Irrigation management

Irrigate immediately after sowing, life irrigation on the third day and thereafter once in a week.

6. Weed management

Hand weeding is given as and when necessary.

7. Plant protection

As per CIB&RC, insecticide is not recommended for the management of pests in fodder crops. No insecticide is registered/label claimed against the pests of fodder crops.

8. Harvesting

First harvest at 65 – 70 days after sowing. Subsequent harvests are made at intervals of 20 – 25 days.

9. Green fodder yield

As green fodder under irrigated conditions, a pure crop yields about 80-130 t/ha/year (14 harvests) of green fodder.

II. SEED PRODUCTION

1. Season

Seed production is practiced once in a year during summer months. The crop should be harvested during first week of March and allowed for seed production in such a way that the peak period of flowering should coincide with summer days.

2. Isolation

Adopt 100 m for certified seed production and 400 m for foundation seed production

3. Foliar spray

- Boron application in the form of Borax (150 ppm) increases the seed quality.
- Foliar spraying of ZnSO_4 + Borax at 0.3% improves pod and seed weight and also increases the germination potential and vigour of seeds.

4. Harvesting

Hand picking of pods would be done at physiological maturity stage.

5. Other management practices

As given in crop management techniques for green fodder production.

6. Seed Yield

240 kg/ha