

**(viii) HEDGE LUCERNE - VELIMASAL (*Desmanthus virgatus*)****A. CROP IMPROVEMENT****I. SEASON AND VARIETIES**

Zone District/ Season	Month	Varieties
<b>Irrigated</b>		
All Districts	Throughout the year	CO 1
<b>Rain fed</b>		
All Districts	June - October	CO 1

**II. PARTICULARS OF VELIMASAL VARIETY**

PARTICULARS	CO 1
Parentage	Introduction
Duration (Days)	Perennial
Green fodder yield (t/ha/year)	90-100 (7 harvests)
Seed yield (kg/ha)	200 - 250
<b>Morphological characters</b>	
Plant height (cm)	110-120
No. of branches per plant	15-20
No. of pods per plant	75-100
No. of seeds per pod	6-10
<b>Quality characters</b>	
Protein content (%)	20 - 22
Dry matter (%)	18 - 20
Dry matter yield (t/ha/year)	16.2-20.0

**B. CROP MANAGEMENT****I. GREEN FODDER PRODUCTION****1. Soil**

All types of soils with good drainage.

**2. Preparatory cultivation**

Plough with an iron plough once and three or four times with country plough to obtain good tilth. Form beds of size 10 m<sup>2</sup> or 20 m<sup>2</sup> 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 fertilizer as per soil test recommendations as far as possible. If the soil testing is not done, follow the blanket recommendations of 25: 40:20 kg NPK/ha.
- Apply full dose of NPK basally before sowing.

### 4. Sowing

- Seed treatment: To get better germination seeds must be treated in hot water at 80°C for 5 minutes (boiling water removed from the flame and kept for 4 minutes to attain 80°C). After hot water treatment, seeds should be washed with cold water and soaked in cold water over a night. Seeds should be shade dried before sowing. Treat the seeds with 3 packets (600 g) of *Rhizobium* and 3 packets (600 g) *Phosphobacteria* before sowing.
  - Seed rate: 20 kg/ha
  - Spacing; 50 cm x solid row

### 5. Irrigation management

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

### 6. Weed management

Hoeing and weeding are 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 cut on 90<sup>th</sup> day after sowing at 50 cm height and subsequent cuts at intervals of 40 days at the same height.

### 9. Green fodder yield

As green fodder under irrigated conditions, a pure crop yields about 120 t/ha of green fodder.

## II. SEED PRODUCTION

### Land requirement

- Land should be free of volunteer plants. The previous crop should not be the same variety or other varieties of the same crop. It can be the same variety if it is certified as per the procedures of certification agency.

### Pre-sowing seed treatment

- Scarify the seeds with commercial Sulphuric acid @ 200 ml / kg of seed for 15 min. to break the seed coat dormancy.

### Spacing

- 60 x 20 cm

### Fertilizer

- Apply NPK @ 25:40:20 kg / ha as basal for the first crop.

### Foliar application

- Foliar spray of 200 ppm salicylic acid thrice at 10 days interval after 50 per cent flowering to improve seed set.

### Harvest

- Harvest the pods in pickings.
- Delayed harvest leads to 100 % shattering loss.

### Seed size

- Grade the seed using BSS 14 x 14 sieve.

### Storage

- Store the seeds in gunny or cloth bags for short term storage (8 - 9 months) with a seed moisture content of 9 - 10 %.
- Store the seeds in polylined gunny bag for medium term storage (12 - 15 months) with a seed moisture content of 8 - 9 %.
- Store the seeds in 700 gauge polythene bag for long term storage (more than 15 months) with a seed moisture content less than 8 %.