

Package of Practices for Organic Production of Crops and Cropping Systems

ICAR-Network Project Organic Farming



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TAMIL NADU

Suggested cropping systems (based on testing under NPOF)

1. Green manure-Cotton-Maize
2. Green manure-Chillies-Sunflower
3. Green manure-Beetroot-Maize

Details of crops in Cropping Systems

Cotton

Particulars	<i>Kharif</i>
Crop	Cotton
Fortnight of sowing/planting	August 1 st fortnight
Fortnight of harvesting	January 2 nd fortnight
Varieties suitable for organic farming	Suraj

Important features of suitable varieties

Parameters	MCU 12	Suraj
Duration (days)	160	165
Average yield under organic condition (kg/ha)	2000 kg/ha	1799 kg/ha
Source (s) of availability	-	CICR, Coimbatore
Suitable regions/districts in the state	Coimbatore, Erode, Madurai, Dindigul, Theni, Dharmapuri, Salem, Namakkal, Erode	Coimbatore

Field preparation: Prepare the field to get a fine tilth. Chiselling for soils with hard pan: Chisel the soils having hard pan formation at shallow depths with chisel plough at 0.5 metre interval, first in one direction and then in the direction perpendicular to the previous one, once in three years. Form ridges and furrows 10 m long with 60 cm spacing by using ridge plough or bund former.



Cultural practices

Seed rate (kg/ha)	7.5 kgs of delinted seeds		
Pre-sowing/planting treatment of seed/seedlings	Material	Recommended rate (kg/ha or lit/ha)	Method of application
	<i>Azospirillum</i>	600 g/ha	Seed treatment
	Phosphobacteria	600 g/ha	Seed treatment
	<i>Pseudomonas</i>	10 g/kg of seed	Seed treatment
	<i>Trichoderma</i>	4 g/kg of seed	Seed treatment
Spacing (Row x plant)	60 x 30 cm		
Basal application of organic manures including soil application of bio-fertilizers, bio-control agents etc	Source	Quantity/ha	
	FYM	7.05 t/ha	
	Vermicompost	4.49 t/ha	
	<i>Azospirillum</i>	2kg/ha	
	Phosphobacteria	2kg/ha	
Top dressing of organic manures	Source	Quantity/ha	Days after sowing/ planting or stage of crop
	Vermicompost	1 t/ha	45 DAS
	Panchagavya	3% spray	30, 60 and 90 DAS
Irrigation practices	Number of irrigations	Most critical stages for irrigation	Depth of irrigation (cm)
	15-18 irrigations depending on the weather and soil type	Germination phase (1-15 days) Vegetative phase (16-44 days) Flowering phase (85-90 days)	
Major weeds	<i>Acalypha indica</i> , <i>Cyanodon dactylon</i> , <i>Cyperus rotundus</i> , <i>Digera arvensis</i> , <i>Chloris barbata</i> , <i>Trianthema portulacastrum</i> , <i>Parthenium hysterophorus</i>		



Weed management	Critical stage of weeding	Recommended practice for organic condition	
	Vegetative and flowering phase	Manual weeding Stubble mulching	
Organic plant protection practices	Name of pest/disease	Organic material recommended for control	Quantity (kg or litres/ ha)
	Fruit borer: <i>Helicoverpa armigera</i>	Application of Nuclear Polyhedrosis Virus (NPV) in evening hours at 7th and (12th week after sowing <ul style="list-style-type: none"> • Beauveria bassiana • Release of egg parasitoid, Trichogramma spp., • Egg-larval parasitoid, Chelonus blackburnii and Predator Chrysoperla carnea • ULV spray of NPV, for effective control of Helicoverpa 	3 x 10 ¹² POB /ha 1.15% WP 400 g/ha 6.25 cc/ha at 15 days interval 3 times from 45 DAS 1,00,000/ha at 6 th , 13 th and 14 th week after sowing. 3 x 10 ¹² POB /ha with 10% cotton seed kernel extract, with sticking agent
	Pink bollworm: <i>Pectinophora gossypiella</i>	<ul style="list-style-type: none"> • Use pheromone trap to monitor the adult moth activity • Three weekly releases of egg parasitoid Trichogramma sp 	(@1,00,000/ha per release
	Cotton Stem Weevil: <i>Pempherus affinis</i> and Shoot weevil: <i>Alcidodes affaber</i>	Basal application of neem cake	250 kg/ha
	Tobacco Cutworm: <i>Spodoptera litura</i>	<ul style="list-style-type: none"> • Use of light trap • Growing castor along border and irrigation bunds 	

		<ul style="list-style-type: none"> Removal and destruction of egg masses Removal and destruction of early stage larvae Hand picking and destruction of grown up caterpillars 	
	Sucking pests	<ul style="list-style-type: none"> Neem oil 3% Neem seed kernel extract 5% Fish oil rosin soap 2.5% Notchi leaf extract 5% Catharanthus rosea extract 5% 	
	Foliar diseases - Alternaria leaf spot: Alternaria macrospora	<ul style="list-style-type: none"> Neem oil 3% Bacillus subtilis 0.04% on 60, 90 and 120 days after sowing 	
	Wilt : Fusarium oxysporum f. sp. vasinfectum	<ul style="list-style-type: none"> Seed treatment with Trichoderma viride formulation 4g/kg seed Destroy the infected - plant debris. Soil application of Trichoderma viride 2.5kg/ha 	
	Root Rot: Rhizoctonia bataticola	<ul style="list-style-type: none"> Seed treatment with T. viride @ 4 g/kg seed Seed treatment with Bacillus @ 10g/kg seed Soil application @ 2.5 kg/ ha at the time of sowing @ 10g/kg Seed treatment with Pseudomonas @ 10g/kg Soil application of Pseudomonas @ 2.5 kg/ha at the time of sowing 	
Optimum stage of harvesting	Boll bursting stage		

Yield

Parameters	1 st year	2 nd year	3 rd year	4 th year	5 th year	6 th year	7 th year	Mean
Economic yield (kg/ha)	1323	1460	1175	1493	1515	1053	1165	1312





Maize (*Rabi*)

Important features of suitable varieties

Parameters		CO1	COH(M)6
Duration (days)		10-110	110
Average yield under organic condition (kg/ha)		5200	7400 kg/ha
Source (s) of availability		TNAU	TNAU
Suitable regions/districts in the state	Coimbatore, Erode, Tirunelveli, Tanjore and Pudukottai	All maize growing areas	
Specific resistance / tolerance to disease	Resistant to downy mildew Orange flint grains	Multiple disease resistance to Sorghum downy mildew, Maydis leaf blight, Turcicum leaf blight, Post flowering stock rot and Banded leaf and sheath blight	

Field preparation: Plough the field with disc plough once followed by cultivator ploughing twice, after spreading FYM or compost till a fine tilth is obtained. Form ridges and furrows providing sufficient irrigation channels. The ridges should be 6 m long and 60 cm apart using a bund former or ridge plough.

Cultural practices

Seed rate	20 kg/ha		
Pre-sowing/planting treatment of seed/seedlings	Material	Recommended rate (kg/ha or lit/ha)	Method of application
	Azospirillum	600 g/ha	Seed treatment
	Phosphobacteria	600 g/ha	Seed treatment
Spacing (Row x plant) in cm	60 x 25 cm		
Basal application of organic manures including soil application of bio-fertilizers, bio-control agents etc	Source	Quantity/ha	
	FYM	11.88 t/ha	
	Vermicompost	7.57t/ha	
	Azospirillum	2kg/ha	
	Phosphobacteria	2kg/ha	





Top dressing of organic manures	Source	Quantity/ha	Days after sowing/ planting or stage of crop
	Vermicompost	1 t/ha	30 DAS
Irrigation practices	Number of irrigations	Most critical stages for irrigation	Depth of irrigation (cm)
	9 to 11 irrigations based on the weather and soil type	Germination & establishment phase-1 to 14 days Vegetative phase - 15 to 39 days Flowering phase - 40 to 65 days Maturity phase - 66 to 95 days	-
Major weeds	Acalypha indica, Cyanodon dactylon, Cyperus rotundus, Digera arvensis, Chloris barbata, Trianthema portulacastrum, Parthenium hysterophorus		
Weed management	Critical stage of weeding	Recommended practice for organic condition	
	<ul style="list-style-type: none"> Vegetative phase Flowering phase 	<ul style="list-style-type: none"> Manual weeding Stubble mulching 	
Organic plant protection practices	Name of pest/ disease	Organic material recommended for control	Quantity (kg or litres/ ha)
	Stem borer: <i>Chilo partellus</i>	Release egg parasitoid Trichogramma chilonis are desirable. Third release is to be accompanied with larval parasitoid Cotesia flavipes @ 5000/ha	@ 2,50,000 /ha (three releases at weekly interval)
	Corn worm/ Earworm: <i>H. elioverpa armigera</i>	<ul style="list-style-type: none"> Set up of light traps Set up sex pheromone traps Two applications of NPV along with crude sugar 2.5 kg + cotton seed kernel powder 250 g on the ear heads 	@ 12/ha @ 1.5 x 10 ¹² POB at 10 days interval along with crude sugar 2.5 kg + cotton seed kernel powder 250 g on the ear heads





Optimum stage of harvesting	Sucking pests	Neem oil Neem seed kernel extract Fish oil rosin soap	3%
	Foliar diseases	Neem oil	3%
Observe the following symptoms, taking into consideration the average duration of the crop.			
i. The sheath covering the cob will turn yellow and dry at maturity.			
ii. The seeds become fairly hard and dry. At this stage the crop is ready for harvest.			

Yield

Parameters	1 st year*	2 nd year	3 rd year	4 th year	5 th year	6 th year	7 th year	Mean
Economic yield (kg/ha)	3753	4123	4078	3757	4064	4144	5481	4200

Chillies (*Kharif*)

Particulars	Kharif
Crop	Chillies
Fortnight of sowing/planting	August 1 st fortnight
Fortnight of harvesting	February 1 st fortnight
Varieties suitable for organic farming	PKM1

Important features of suitable varieties

Parameters	PKM1	K1
Duration (days)	180	210
Average yield under organic condition (kg/ha)	3.08 tonnes/ha – dry pod	1.8 tonnes/ha- dry pod
Source (s) of availability	TNAU	TNAU
Suitable regions/districts in the state	Rainfed and irrigated conditions	Southern Districts of Tamil Nadu, Coimbatore

Nursery raising practices

Seed rate

Varieties: 1.0 kg / ha.





Nursery area: 100 sq.m / ha.

Nursery raising: Protray nursery

- Mix sterilized cocopeat @ 300 kg with 5 kg neem cake along with Azospirillum and phosphobacteria each @ 1 kg. Approximately 1.2 kg of cocopeat is required for filling one protay. 300 protrays (98 cells) are required for the production of 29,000 seedlings, which are required for one hectare adopting a spacing of 90 x 60 x 45 cm in a paired row system.
- Sow the seeds in protrays @ 1 seed per cell.
- Cover the seed with cocopeat and keep the trays one above the other and cover with a polythene sheet till germination starts.
- After 6 days place the protrays with germinated seedlings individually on the raised beds inside the shade net.
- Water with rosecan everyday upto seed germination.

Field preparation: Thoroughly prepare the field and form ridges and furrows at a spacing of 60 cm. Irrigate the furrows and transplant 40-45 days old seedlings, with the ball of earth on the ridges.

Cultural practices

Pre-sowing/planting treatment of seed/seedlings	Material	Recommended rate (kg/ha or lit/ha)	Method of application
	Azospirillum	400 g/ha	Seedling root dip
	Phosphobacteria	400 g/ha	Seedling root dip
Spacing (Row x plant) in cm	60 x 45 cm		
Number of seedlings/hill	2		
Basal application of organic manures including soil application of bio-fertilizers, bio-control agents etc	Source	Quantity/ha	
	FYM	7.50 t/ha	
	Vermicompost	3.09 t/ha	
	Azospirillum	2kg/ha	
	Phosphobacteria	2kg/ha	
	Pseudomonas	2.5 kg/ha	





	Trichoderma	2.5 kg/ha	
Top dressing of organic manures	Source	Quantity/ha	Days after sowing/ planting or stage of crop
	Vermicompost	1 t/ha	45 DAS
	Panchagavya	3% spray	30, 60, 90 and 120 DAS
Irrigation practices	Number of irrigations	Most critical stages for irrigation	Depth of irrigation (cm)
	18-24 irrigations depending on the weather and soil type	Irrigation is done at weekly intervals	-
Major weeds	Acalypha indica, Cyanodon dactylon, Cyperus rotundus, Digera arvensis, Chloris barbata, Trianthema portulacastrum, Parthenium hysterophorus		
Weed management	Critical stage of weeding	Recommended practice for organic condition	
	Vegetative and flowering phase	Hand weeding once in 30 days after planting.	
Organic plant protection practices	Name of pest/ disease	Organic material recommended for control	Quantity (kg or litres/ ha)
	Fruit borer	<ul style="list-style-type: none"> Set up pheromone traps for Helicoverpa armigera or Spodoptera litura Collection and destruction of damaged fruits and grown up caterpillars. Spray Bacillus thuringiensis 	@ 12 Nos./ha. @ 2 g/lit
	Sucking pests	Neem oil Neem seed kernel extract	3% 5%
	Damping off and anthracnose	Seed treatment with Trichoderma viride or	@ 4 g/kg





	Pseudomonas fluorescens	@ 10 g/kg
	• Soil application of Pseudomonas fluorescens	@ 2.5 kg/ha
	• Neem oil	@ 3%
Optimum stage of harvesting	Fruit maturation stage	

Yield

Parameters	1 st year*	2 nd year	3 rd year	4 th year	5 th year	6 th year	7 th year	Mean
Economic yield (kg/ha)	3168	5345	3153	5526	5812	4483	6215	4815

Sunflower (*Rabi*)

Important features of suitable varieties

Parameters	TNAU Sunflower Hybrid CO 2	COSFV 5
Duration (days)	90-95	85-90
Average yield under organic condition (kg/ha)	2250	1700
Source (s) of availability	TNAU	TNAU
Suitable regions/districts in the state	Coimbatore, Erode, Salem, Namakkal, Tirunelveli, Dindigul, Dharmapuri, Tiruchirapalli, Perambalur, Karur, Cuddalore, Villupuram, Virudhunagar, Sivagangai, Ramanathapuram, Madurai, Theni, Thoothukudi,	Coimbatore, Erode, Salem, Namakkal, Tirunelveli, Dindigul, Dharmapuri, Tiruchirapalli, Perambalur, Karur, Cuddalore, Villupuram, Virudhunagar, Sivagangai, Ramanathapuram, Madurai, Theni, Thoothukudi

Field preparation: Plough once with tractor or twice with iron-plough or three to four times with country-plough till all the clods are broken and a fine tilth is obtained. Spread 12.5 t/ha of FYM or compost or composted coir pith evenly on the field before the last ploughing and incorporate in the soil by working with a country plough. Form ridges and furrows 6 m long. Use bund-former or ridge plough to economise and form irrigation channels across and ridges according to the topography of the field.





Cultural practices

Seed rate	6 kg/ha		
Pre-sowing/planting treatment of seed/seedlings	Material	Recommended rate (kg/ha or lit/ha)	Method of application
	Azospirillum	600 g/ha	Seed treatment
	Phosphobacteria	600 g/ha	Seed treatment
	Trichoderma	4g/kg	Seed treatment
Spacing (Row x plant) in cm	45 cm x 30cm		
Basal application of organic manures including soil application of bio-fertilizers, bio-control agents etc	Source	Quantity/ha	
	FYM	5.30 t/ha	
	Vermicompost	3.37t/ha	
	Azospirillum	2kg/ha	
Top dressing of organic manures	Source	Quantity/ha	Days after sowing/ planting or stage of crop
	Vermicompost	500 kg/ha	30 DAS
	Panchagavya	3%	30, 45 and 60 DAS
Irrigation practices	Number of irrigations	Most critical stages for irrigation	Depth of irrigation (cm)
	10-12 irrigation depending on the weather and soil type	Seeding, flowering and seed development stage	-
Major weeds	Acalypha indica, Cyanodon dactylon, Cyperus rotundus, Digera arvensis, Chloris barbata, Trianthema portulacastrum, Parthenium hysterophorus		
Weed management	Critical stage of weeding	Recommended practice for organic condition	
	Vegetative phase Flowering phase	Manual weeding Stubble mulching	





Organic plant protection practices	Name of pest/disease	Organic material recommended for control	Quantity (kg or litres/ ha)
	<p>Capitulum borer (Head borer): <i>Helicoverpa armigera</i></p>	<ul style="list-style-type: none"> Sow trap crops like marigold at 50 plants/acre Use of pheromone traps for pest intensity identification as well as to trap the male moths Setting of light traps to know the range of pest incidence as well as to kill moth population Release predators like coccinellids, <i>Chrysoperla carnea</i> Release parasitoides like <i>Trichogramma</i> spp, (<i>Bracon</i> spp., <i>Campoletis</i> spp) Spraying of 5% Neem oil or 5% Neem Seed Kernal extract before egg laying 	<p>4 traps/acre</p> <p>1 light trap/ 5 acre</p> <p>@ 1larva/ head</p> <p>@ 20,000/acre</p>
	<p>Bihar hairy caterpillar: <i>Spilosoma oblique</i></p>	<ul style="list-style-type: none"> Deep summer ploughing Use of well rotten manures Collection and destruction of larvae 	
	<p>Tobacco caterpillar: <i>Spodoptera litura</i></p>	<ul style="list-style-type: none"> Hand pick the <i>Helicoverpa</i> larvae and destroy Install bird perches per hectare for predatory birds 	





	Leaf hopper (jassids): <i>Amrasca biguttula biguttula</i>	<ul style="list-style-type: none"> • Neem oil 3% • Neem seed kernel extract 5%
	Foliar diseases	Neem oil 3%
	Charcoal Rot: <i>Macrophomina phaseolina</i>	Soil application of <i>P. fluorescens</i> or <i>T. viride</i> 2.5 kg / ha + 50 Kg of well decomposed FYM or sand at 30 days after sowing
Optimum stage of harvesting	Observe the bracts on the backside of the capitula. When they turn lemon yellow, the heads harden and the crop is ready for harvest.	

Yield

Parameters	1 st year*	2 nd year	3 rd year	4 th year	5 th year	6 th year	7 th year	Mean
Economic yield (kg/ha)	1252	1227	1023	1349	1602	1304	1373	1304

Beetroot (*Kharif*)

Particulars	Kharif
Crop	Beetroot
Fortnight of sowing/planting	July 1 st fortnight
Fortnight of harvesting	September 2 nd fortnight
Varieties suitable for organic farming	Ruby queen

Important features of suitable varieties

Parameters	Ruby queen
Duration (days)	60-75 days
Average yield under organic condition (kg/ha)	
Source (s) of availability	Private industry
Suitable regions/districts in the state	Widely adaptable (Preferably cool weather)





Field preparation: Land is ploughed to a fine tilth by thorough ploughing making it loose and friable. Clods are to be removed completely. Apply well decomposed farmyard manure at the time of final ploughing.

Cultural practices

Seed rate (kg/ha)	6 kg/ha		
Pre-sowing/planting treatment of seed/seedlings	Material	Recommended rate (kg/ha or lit/ha)	Method of application
Spacing (Row x plant) in cm	30 x 10 cm		
Basal application of organic manures including soil application of bio-fertilizers, bio-control agents etc	Source	Quantity/ha	
	FYM	3.75 t/ha	
	Vermicompost	1.55 t/ha	
Top dressing of organic manures	Source	Quantity/ha	Days after sowing/ planting or stage of crop
	Vermicompost	500 kg/ha	45 DAS
	Panchagavya	3% spray	30, 45 and 60 DAS
Irrigation practices	Number of irrigations	Most critical stages for irrigation	Depth of irrigation (cm)
	8 - 10 irrigations depending on the weather and soil type	Irrigation is done at weekly intervals	
Major weeds	Acalypha indica, Cyanodon dactylon, Cyperus rotundus, Digera arvensis, Chloris barbata, Trianthema portulacastrum, Parthenium hysterophorus		
Weed management	Critical stage of weeding	Recommended practice for organic condition	
	Early stage of crop growth	Hand weeding once in 30 days after sowing	
Organic plant protection practices	Name of pest/ disease	Organic material recommended for control	Quantity (kg or litres/ ha)
	Leaf miners, web worms, semi loopers	Neem oil	3%
	Cercospora leaf spot	Neem oil	3%





Yield

Parameters	1 st year*
Economic yield (kg/ha)	24.8 t/ha

Maize (*Rabi*)

Important features of suitable varieties

Parameters	COH(M)6
Duration (days)	110
Average yield under organic condition (kg/ha)	7400 kg/ha
Source (s) of availability	TNAU
Suitable regions/districts in the state	All maize growing areas
Specific resistance / tolerance to pest	Moderately resistant to stem borer
Specific resistance / tolerance to disease	Multiple disease resistance to Sorghum downy mildew, Maydis leaf blight, Turcicum leaf blight, Post flowering stock rot and Banded leaf and sheath blight

Field preparation: Plough the field with disc plough once followed by cultivator ploughing twice, after spreading FYM or compost till a fine tilth is obtained. Form ridges and furrows providing sufficient irrigation channels. The ridges should be 6 m long and 60 cm apart using a bund former or ridge plough.

Cultural practices

Seed rate	20 kg/ha		
Pre-sowing/planting treatment of seed/seedlings	Material	Recommended rate (kg/ha or lit/ha)	Method of application
	Azospirillum	600 g/ha	Seed treatment
	Phosphobacteria	600 g/ha	Seed treatment
Spacing (Row x plant) in cm	60 x 25 cm		
Basal application of organic manures including soil application of bio-fertilizers,	Source	Quantity/ha	
	FYM	11.88 t/ha	
	Vermicompost	7.57t/ha	





bio-control agents etc	Azospirillum	2kg/ha	
	Phosphobacteria	2kg/ha	
Top dressing of organic manures	Source	Quantity/ha	Days after sowing/ planting or stage of crop
	Vermicompost	1 t/ha	30 DAS
Irrigation practices	Number of irrigations	Most critical stages for irrigation	Depth of irrigation (cm)
	9 to 11 irrigations based on the weather and soil type	Germination & establishment phase-1 to 14 days Vegetative phase - 15 to 39 days Flowering phase - 40 to 65 days Maturity phase - 66 to 95 days	
Major weeds	Acalypha indica, Cyanodon dactylon, Cyperus rotundus, Digera arvensis, Chloris barbata, Trianthema portulacastrum, Parthenium hysterophorus		
Weed management	Critical stage of weeding	Recommended practice for organic condition	
	<ul style="list-style-type: none"> • Vegetative phase • Flowering phase 	<ul style="list-style-type: none"> • Manual weeding • Stubble mulching 	
Organic plant protection practices	Name of pest/disease	Organic material recommended for control	Quantity (kg or litres/ ha)
	<p>Stem borer: <i>Chilo partellus</i></p> <p>Corn worm/ Earworm:</p>	<p>Release egg parasitoid Trichogramma chilonis are desirable. Third release is to be accompanied with larval parasitoid Cotesia flavipes @ 5000/ha</p> <p>• Set up of light traps • Set up sex</p>	<p>@2,50,000 /ha (three releases at weekly interval)</p> <p>@ 12/ha</p>



	<i>Helicoverpa armigera</i>	pheromone traps • Two applications of NPV along with crude sugar 2.5 kg + cotton seed kernel powder 250 g on the ear heads	@ 1.5 x 10 ¹² POB at 10 days interval along with crude sugar 2.5 kg + cotton seed kernel powder 250 g on the ear heads
	Sucking pests	Neem oil Neem seed kernel extract Fish oil rosin soap	3%
	Foliar diseases	Neem oil	3%
Optimum stage of harvesting	Observe the following symptoms, taking into consideration the average duration of the crop. i. The sheath covering the cob will turn yellow and dry at maturity. ii The seeds become fairly hard and dry. At this stage the crop is ready for harvest.		

Yield

Parameters	1 st year*
Economic yield (kg/ha)	4015

Sunnhemp (*Summer*)

Important features of suitable varieties

Parameters	Sunnhemp
Duration (days)	150 days
Average yield under organic condition (kg/ha)	Green biomass – 13-15 t/ha
Source (s) of availability	TNAU
Suitable regions/districts in the state	All districts of Tamil Nadu

Field preparation: Plough the soil to fine tilth, broadcast the seeds and form ridges and furrows 60 cm.



Cultural practices

Seed rate (kg/ha)	30 kg/ha for green manure		
Pre-sowing/planting treatment of seed/seedlings	Material	Recommended rate (kg/ha or lit/ha)	Method of application
	Rhizobium	1 kg/ha	Seed treatment
Spacing (Row X plant) in cm	Broadcasted		
Irrigation practices	Once in 30 days		
Organic plant protection practices	Neem oil: 3% spraying		
Optimum stage of harvesting	Incorporation during flowering stage or 45 DAS		

Yield: Incorporated as green biomass on 45 DAS

