



SNS COLLEGE OF TECHNOLOGY

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DEPARTMENT OF AGRICULTURAL ENGINEERING

COURSE CODE & NAME: 19AGO301 & FARM MECHANISATION

III YEAR / VI SEMESTER

UNIT : IV Harvesting and Plant Protection Machinery

TOPIC 8 – Integrated Weed Management





Rice

Critical period of weed control	20-30 DAT
Cultural method	<ol style="list-style-type: none"> 1) Hand weeding 2) Hand pulling 3) Pudding 4) Flooding
Mechanical method	<ol style="list-style-type: none"> 1) Weeder (Float) 2. Conoweeder/Rotary weeder
Chemical method	Apply pendimethalin 1.0kg/ha on 5 days after sowing or Pretilachlor + safener (Sofit) 0.45kg/ha on the day of receipt of soaking rain followed by one hand weeding on 30 to 35 days after sowing.
Biological method	<ol style="list-style-type: none"> 1. <i>Hirsch – Manniella spinicaudata</i> is a rice root nematode which controls most upland rice weeds 2. <i>Azolla</i>
Remarks	<p>I. Substitution and preventive method:</p> <ol style="list-style-type: none"> a) Stale seed bed technology b) Land preparation c) Water management



Wheat

Critical period of weed control	15 – 30 DAS
Cultural method	a) Hand Hoeing b) Inter cultivation c) Criss-cross sowing
Chemical method	1. 2, 4D (1 – 1.5 kg ai/ha) 2. Mixture of Isoproturan (0.75 kg ai/ha) and 2, 4D (0.4 kg ai/ha) during 30- 35 DAS
Remarks	II. Complimentary weed control methods a) Cultivars b) Seedling age /planting method c) Fertilizer management d) Cropping system



Maize

**Critical period
of weed control**

Maize 2 to 6 Weeks

Cultural method

One hand weeding on 40-45 days after sowing

Chemical method

1. Pre-emergence application of Atrazine (1-2 kg ai/ha)
2. Combined application of Alachlor (2 kg/ha) and atrazine (1kg/ha) is more effective and have wider spectrum of control



Groundnut

Critical period of weed control	Upto 45 days
Cultural method	After 35 - 40 days one hand weeding may be given.
Chemical method	1. Alachlor (1-5 kg/ha) – pre emergence application

Sunflower

Critical period of weed control	4-6 weeks
Cultural method	Hoe and hand weed on the 15th and 30th day of sowing and remove the weeds. Allow the weeds to dry for 2 - 3 days in the case of irrigated and then give irrigation.
Chemical method	1. Apply Fluchloralin at 2.0 l/ha before sowing and incorporate or apply as pre-emergence spray on 5 day after sowing followed by irrigation or apply Pendimethalin as pre-emergence spray 3 days after sowing.



Cotton

Critical period of weed control	First 45 days
Cultural method	1. One hand weeding on 45 DAS will keep weed free environment upto 60 DAS 2. Hoe and hand weed between 18th to 20th day of sowing, if herbicide is not applied at the time of sowing
Chemical method	1. Diuron (0.5 – 1.5 kg/ha), Monuron (1-1.5 kg/ha), Fluchloralin (1-1.5 kg/ha) applied as preemergence/ preplanting

Pulses

Critical period of weed control	First 30-35 days
Cultural method	1. One hand weeding on 30 days after sowing gives weed free environment throughout the crop period 2. If herbicides are not applied give two hand weedings on 15 and 30 days after sowing.
Chemical method	1. Fluchloralin (1-1.5 kg/ha), Pendimethalin (0.5-1.0 kg/ha) as Pre emergence (preplanting incorporation)



Sugarcane

Critical period of weed control	4 to 5 months
Cultural method	Remove the weeds along the furrows with hand hoe.
Mechanical method	If herbicide is not applied work the junior-hoe along the ridges on 25, 55 and 85 days after planting for removal of weeds and proper stirring
Chemical method	<ol style="list-style-type: none">1. Pre-emergence herbicides like atrazine (2 to 3 kg/ha) Simazine (2 to 3 kg/ha), Alachlor (1.3 to 2.5 kg/ha) etc., will generally last for 8 to 12 weeks2. To obtain best results sequential application of Preemergence and post emergence herbicides or post emergence herbicides like Glyphosate (0.8 to 1.6 kg/ha) Paraquat (0.4 to 0.8 kg/ha).



Thank You