

Sl. No.	CROP NAME	SCIENTIFIC NAME	FAMILY	SEED RATE	SPACING	SEASON OF CULTIVATION	VARIETIES	RDF	HERBICIDE	WATER REQUIREMENT	YEILD SSSSS
1	Rice	<i>Oryza sativa</i>	Poaceae			Kharif: May-Jun(sowing); Sep-Oct(harvest) Rabi: Jun-July(sowing); Nov -Dec(harvest) Summer: Nov-Dec(sowing); March-Apr(harvest) Short day plant	Long duration: BR-2655(Resistance to blast), Jaya, Mandya vijaya, Prakash (salt tolerant variety) Medium: Tanu(KMP 101), MTU-1001, IR-20 Shorter- Raksha, Rasi, Mangala(saline tolerant) Jyothi(red kernal variety). IR-8				
A	Transplanted Puddled rice	Critical crop weed competition: 15 – 45 DAT		25 kg/acre	20 X 10cm			100:50:50 kg NPK ha ⁻¹	<u>Pre emergent:</u> Butachlor 5%g @12kg/acre Butachlor 50% EC @0.8L/acre Anilophos <u>30% EC @0.5L</u> in 200L of water/acre Pyrazosulfium ethyl 10% WP @ 100g/acre Londax powder: Bensulfium methyl(0.6g) + pretilachlor‘(0.6%) @4kg/acre <u>Post emergent:</u> 2,4-D 80% WP @1kg in 200lt of water/acre Propanil 35% EC @3L in 200lt of water/acre Bispysibac sodium 10% SC @100ml in 200lt of water/acre	100-120cm	
B	SRI method	Critical crop weed competition: 15 – 45 DAT		2 kg/acre	25 X 25cm 30 X 30cm (Square)			100:50:50 kg NPK ha ⁻¹	<u>Pre emergent:</u> (3-5 DAT) Londax powder: Bensulfuron methyl(0.6g) + pretilachlore(<u>0.6%</u>) <u>@4kg/acre</u> <u>Post emergent:</u> (20 DAT) Bispyribac sodium 10% SC @100ml in 200lt of water/acre	100-120cm Should be maintained at saturation point	15-20% more yield than transplantig puddled rice
C	Direct seeded rice (DSR) [in wet condition]	Critical crop weed competition:starts from 1st day of sowing		25-30 kg/ha	20 X 10cm				Pre emergent: (3-5 DAT) Londax powder @4kg/acre Post emergent: (20 DAT) Bispyribac sodium 10% SC @100ml in 200lt of water/acre	100-120cm Should be maintained at saturation point	10-15% more yield than transplantig puddled rice
D	DSR (in Dry condition) Aerobic rice	Critical crop weed competition: starts from 1st day of sowing		8-10 kg/ha	30 X 30cm 25 X 25cm	By the end of july	MAS 946-1 MAS-26	100:50:50 kg NPK ha ⁻¹	<u>Pre emergent:</u> Pyrazosulfuron ethyl 10% @1g per litre of water	Should be maintained at field capacity	

									Londax powder @ 10kg/ha @2-3 DAS <u>Post emergent:</u> Byspyribac sodium 10% @0.08lt/ha at 15-20 DAS ● Cono rotary weeder cyclic weeder		10-15% more than transplantig puddled rice
E	Hybrid rice	Critical crop weed competition: 15 – 45 DAT		6-8 kg/acre or 15-20 kg/ha	15 X 15cm		KRH-2, KRH-4	Kharif: 125:62.5:62.5 kg/ha Summer: 150:80:80kg/ha			Vary acc. to varieties and season During kharif 8-10 tons/ha
2	Maize	<i>Zea mays</i> Flint corn (<i>Zea mays indurata</i>) Dent corn (<i>Zea mays indentata</i>) Pop corn (<i>Zea mays averata</i>) Sweet corn (<i>Zea mays saccharata</i>) Flour corn (<i>Zea mays amylaceae</i>) Pod corn (<i>Zea mays tunicata</i>) Waxy corn (<i>Zea mays cerabina</i>) Critical crop weed competition: 25 – 30 DAS	Poaceae	15 kg/ha Pop corn: 15 kg/ha Baby corn: 40 kg/ha	60 X 30cm Pop corn: 60 X 15cm Baby corn: 45 X 15cm	Kharif: June-July Rabi: Oct- Nov Summer: Jan-Feb Pop corn: 35-40 q/ha Baby corn: 75-80 q/ha: Short day plant	Hybrid: Hema, Nithyashree (NAH-2049); Composite NAC-6004, Composite NAC-6002, MAH 14-5(UASB) [Resistant to leaf blight, stock root]	150:75:40 kg NPK ha ⁻¹ (irrigated) 100:50:25 kg NPK ha ⁻¹ (rainfed) Pop corn: 150:75:40 kg NPK ha ⁻¹ Baby corn: 150:75:40 kg NPK ha ⁻¹	<u>Pre emergent:</u> Atrazine 50% WP @1-1.25 kg a.i./ha (sole crop) Pendimethalin 30% EC @1kg a.i./h (inter crop) <u>Post emergent:</u> 2,4-D @0.75-1kg a.i./ha	50-60cm	40 q/ha (Irrigated) 25 q/ha (Rainfed)
3	Wheat	<i>Triticum aestivum</i> Diploid wheat: <i>T.monococcum</i> (Eikorn) Tetraploid wheat: <i>T.durum</i> (Durum/Marconi) <i>T.dicoccum</i> (Emmer) Hexaploid wheat: <i>T.aestium</i> (bread wheat) <i>T.spelta</i> (spelt wheat) <i>T.vulgare</i> Critical crop weed competition: 35 – 40 days	Poaceae	100 kg/ha (normal condition) 125 kg/ha (late sowing)	22.5 X 10-15cm (irrigated) 30 X 10-15cm (Rainfed)	15 th Oct To 15 th Nov Long day plant	H.D.2189, DWR-39(Keerthi) Single gene: Sonalika, Lerma rojo 64A Double gene: Kalyan sona, Sonora-64 Triple gene: Hira, Moti, Jyoti High gluten content: DWR-39, HI-977 Late sown: Sonora-64, Sonalika	120:60:40 kg NPK ha ⁻¹ (irrigated timely sown crop) 80:40:20 kg NPK ha ⁻¹ (irri-late sown) 60:30:20 kg NPK ha ⁻¹ (rainfed)	<u>Pre emergent:</u> Pendimethalin @ 3.3 lt/ha <u>Post emergent:</u> Isoproturon 50% @1.5kg a.i./ha 2,4-D 36% @1.5kg a.i./ha Crop associated Weed: <i>Phalaris minor</i>	40-45cm	45-55 q/ha (Irrigated) 20-25 q/ha (Rainfed)
4	Sorghum	<i>Sorghum bicolor</i> <i>Sorghum halepense</i> (Wild sp. of sorghum) <i>Sorghum sudanense</i> (Multicut sorghum sp.)	Poaceae	12-15 kg/ha	45 X 15cm	Kharif: June-July Rabi: Mid Sep – Mid Oct Summer: Jan-Feb Short day plant	CSH-1(ratoon crop) CSH-5, CSH-9, CSH-16, CSH-17, CSG-18, CSH-21 Kharif cultivars: DVS-2, CSH-22(I) Dual purpose var.	100:75:40 kg NPK ha ⁻¹ (irrigated) 65:40:40 kg NPK ha ⁻¹ (rainfed)	<u>Pre emergent:</u> Atrazine 50% WP @0.5-0.75kg a.i./ha <u>Post emergent:</u> 2,4-D @0.75-1kg a.i./ha	30-35cm	Irrigated- Grain yield: 40-50 q/ha Fodder yield: 100-125 q/ha Rainfed- Grain yield: 20-25 q/ha Fodder yield:

		Critical crop weed competition: 35 – 40 days					Pusa Chari Multicut var. MP Chari		Crop associated Weed: <i>Striga asiatica</i>		50-75 q/ha
5	Bajra	<i>Pennisetum typhoides</i> Critical crop weed competition: 35 – 40 days	Poaceae	Drilling: 5 kg/ha Dibbling: 3 kg/ha	45 X 15cm	Kharif: June-July Rabi: Sep-Oct Summer: 1 st fortnight of Janaury	Irrigated: WCC-75, PHVB-910 Rainfed: WCC-75	100:65:25 kg NPK ha ⁻¹ (irrigated) 50:25:0 kg NPK ha ⁻¹ (rainfed)	<u>Pre emergent:</u> Atrazine 50% WP @0.5-0.75kg a.i./ha <u>Post emergent:</u> 2,4-D @0.75-1kg a.i./ha	40-45cm	Irrigated- Grain yield: 30-35 q/ha Straw yield: 100 q/ha Rainfed- Grain yield: 12-15 q/ha Straw yield: 75 q/ha
6	Finger millet	<i>Eleusine coracana</i> Critical crop weed competition: 25 – 30 days	Poaceae	Drilling: 12.5 kg/ha Transplanting: 5 kg/ha	Drilling: 30 X 10cm Transplanting: 20 X 10cm	Early Kharif: Apr-May Kharif: June-July Late Kharif: Aug-Sep Rabi: Oct-Dec Summer: Jan-Mar Short day plant	Long duration- Indaf-8, MR-1, MR-6 Medium duration: Indaf-5, ML-365, GPU-28 Short duration: Indaf-9, KMR-204, GPU-45(late sowing), GPU-48 Rabi Season: Indaf-7, KMR-301 White ragi var.: KMR-340, Indaf-11	100:50:50 kg NPK ha ⁻¹ (irrigated) 50:37.5:40 kg NPK ha ⁻¹ (rainfed)	<u>Pre emergent:</u> Butachlor 50% EC @2.5lt/ha or Pendimethalin 30% EC @2.5lt/ha	40-45cm	Irrigated: Grain yield: 30-45 q/ha Straw yield: 90-100 q/ha Rainfed: Grain yield: 20-30 q/ha Straw yield: 70-75 q/ha
7	SMALL MILLETS		Poaceae		Short day plants	Can be grown in all the seasons. Kharif: Jun-Jul Ideal				40-45cm	
A	Foxtail millet (Navane)	<i>Setaria italica</i> (L.) Beauv		7.5-10 kg/ha	30 x 10cm		RS-118, K221-1, P.S-4, SIA-326	40:40:0 kg NPK ha ⁻¹			Grain yield: 10-12 q/acre Straw yield: 0.5-1 q/acre
B	Kodo millet (Haraka)	<i>Paspalum scrobiculatum</i>		10-12.5 kg/ha	30 x 10cm		PSC-1, JNK-364, RBK-155, GPUK-3	20:20:0 kg NPK ha ⁻¹			Grain yield: 5-6 q/acre Straw yield: 0.5-0.75q/acre
C	Little millet (Same)	<i>Panicum sumatrense</i>		7.5-10 kg/ha	30 x 10cm		CO-2, PRC-3, OLM-203	20:20:0 kg NPK ha ⁻¹			Grain yield: 8-10 q/acre Straw yield: 0.5-1 q/acre
D	Proso millet (Baragu)	<i>Panicum miliaceum</i>		12.5 kg/ha	30 x 10cm		GPUP-8	40:20:0 kg NPK ha ⁻¹			Grain yield: 8-10 q/acre Straw yield: 0.5-1 q/acre
E	Barnyard millet (udalu)	<i>Echinochloa frumentacea</i>		10-12.5 kg/ha	30 x 10cm		Shushruta, Sukshema (TNAU 63)	40:20:0 kg NPK ha ⁻¹			Grain yield: 10-12 q/acre Straw yield: 0.5-1 q/acre

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8	Chick pea/ Bengal gram	<i>Cicer arietinum</i> Critical crop weed competition: 20 – 25 days	Leguminaceae	65-70 80-100	30 X 10 cm (Desi type) 45 X 10 cm (Kabuli type)	Rabi: 15 th Oct - 15 th Nov Long day plant	Annigeri -1 J.G. – 11 Vishal, K.A.K-2(Kabuli type)	25:50:50 (irrigated) 12.5:25:25 (Rainfed) Long day plant	<u>Pre emergent:</u> Pendimethalin @ 2lt/ha	25-40cm	15-20 q/ha
9	Peas	<i>Pisum sativum</i> Critical crop weed competition:	Leguminaceae	60-80	30 X 10 cm (Garden pea) 45 X 10 cm (Field pea)	Rabi crop: Mid of Oct to Mid of Nov Long day plant	Table peas: Arkel, bonnvelle, Early badger, Early dee Field pea: Type-163,PG3, Aparns, Hans, KEP-103, Alankar, Swarna Rekhs, DMR-7,11, KEP-103	25:50:50	Pre emergent: Pendamethalin @ 2lt/ha	40-50cm	Seed yield: 20-25 q/ha Green pod: 10-12.5 q/ha
10	Red gram/ Pigeon pea	<i>Cajanus cajan</i> Critical crop weed competition: 50-60 days	Leguminaceae	Pure crop: 15 Inter crop: 7.5	90-120 X 30 cm (early kharif) 60-90 X 30 cm (late kharif) 60 X 30 cm (Inter crop)	First fortnight of May to First fortnight of June Short day plant	TTB-7(Dhal), ICP-7035(resistant to sterility mosaic disease) BRG-1(Dhal&veg), BRG-2(Dhal), BRG-4(Dhal&late sown), BRG-5(Wilt resistant)	25:50:25	Pre emergent: Alachlor or pendimethalin @ 2.5lt/ha No post emergent herbicide required	35-40cm	15 q/ha
11	Green gram	<i>Vigna radiata</i> Critical crop weed competition: 25-30 days	Leguminaceae	Sole Crop: 15-20 Inter Crop: 10	30 × 10 cm	Kharif: May-June Rabi: Sept-Oct Summer: Jan-Feb Short day plant	Pusa Baisakhi (wilt resistant), P.S.16, KKM-3, PDM 84-178	25:50:50 (Irrigated) 12.5:25:25 (Rainfed)	Pendimethalin or Alachlor @ 2lt/ha	30-40cm	Rainfed: 5-7.5 q/ha ⁻¹ Irrigated: 10-12.5 q/ha ⁻¹
12	Black gram	<i>Vigna mungo</i> Critical crop weed competition: 25-30 days	Leguminaceae	Sole Crop: 20 Inter Crop: 10	30 × 10 cm	Kharif: May-June Rabi: Sept-Oct Summer: Jan-Feb Short day plant	Karagauv, T-9, Rashmi(LBG-625) [Bold seeded]	25:50:50 (Irrigated) 12.5:25:12.5 (Rainfed)	Pendimethalin or Alachlor At 2lt/ha	30-40cm	Rainfed: 5-7.5 q/ha ⁻¹ Irrigated: 10-12.5 q/ha ⁻¹
13	Field bean	<i>Dolichos lablab</i> Critical crop weed competition: 25-30 days	Leguminaceae	Sole Crop: 25-30 Inter Crop: 10	45 × 15 cm (Kharif) 30 × 15 cm (Summer)	Kharif: June-July Rabi: Sept-Oct Summer: Jan-Feb Short day plant	H.A-3, H.A-4(contain more sogadu)	25:50:25 (Irrigated & Rainfed)		30-40cm	Seed Yield: 7.5-10 q/ha ⁻¹ Green pod yield: 30-35 q/ha ⁻¹
14	Cowpea	<i>Vigna unguiculata</i> Critical crop weed competition: 25-30 days	Leguminaceae	Sole Crop: 25-30 Inter Crop: 10	45 × 10 cm	Kharif: May-June Rabi: Sept-Oct Summer: Jan-Feb Short day plant	C-152, TVX-944, IT-98456-1, KM-5 White variety: KBC-1, KBC-2	25:50:25 (Irrigated & Rainfed)	Pendimethalin or Alachlor At 2lt/ha	40-50cm	Rainfed: 7.5-10 q/ha ⁻¹ Irrigated: 12.5-15 q/ha ⁻¹
15	Horse gram	<i>Dolichos biflorus</i> Critical crop weed competition: 20-25 days	Leguminaceae	25	30 × 10 cm	Late Kharif: Aug-Sept Rabi: First fortnight of November Short day plant	KBH-1, PHG-9	25:37.5:25		35-40cm	8-10q/ha with 10 ton fodder/ha
16	Lentil	<i>Lens esculenta</i>	Leguminaceae	30-40	30 × 10 cm	15 th Oct - 15 th Nov	Pusa - 1,4,6 Punjab - L-912, LL56	25:50:25	Pendimethalin at 1kg a.i.ha		1.8 – 2 ton ha ⁻¹

		Critical crop weed competition: 20-30 days				Long day plant	Type - 8 Type - 36				
FORAGE CROPS											
17	Oats	<i>Avena sativa</i> Critical crop weed competition: upto 20-30 days after sowing	Leguminaceae	100	25 × 10 cm (grain) 20 × 10 cm (fodder)	15 th Oct - 15 th Nov	OS-6, Kent UPO 50	100:60:40	Pre-emergent: Pendimethalin at 3.3lt/ha Post-emergent: 2,4-D 36% at 1.5kg a.i./ha	45-50cm	Grain Yield: 35 q/ha ⁻¹ Fodder Yield: 30-40 Ton ha ⁻¹
18	Fodder Cowpea	<i>Vigna unguiculata</i> Critical crop weed competition: 25 – 30 days	Leguminaceae	100	30 × 10 cm	Kharif, Rabi, Summer Short day plant	MFC 08-14, MFC 09-1, KBC-3	25:50:25			Greenpod yield: 35-40 Ton ha ⁻¹
19	Fodder Maize	<i>Zea mays</i> Critical crop weed competition: 25-30 days	Poaceae	Sole Crop: 25-30 Inter Crop: 10	45 × 15 cm (Kharif) 30 × 15 cm (Summer)	Kharif, Rabi, Summer Short day plant	African tall, Ganga- 5, 7 & 10 Baby corn, Sweet corn and dent types	150:75:75	Atrazine 50% WP at 1-1.25 kga.i./ha (Sole crop) Pendimethalin 30% EC at 1kg a.i./ha (Inter crop)	30-40cm	50-60 Ton ha ⁻¹
20	Fodder Sorghum	<i>Sorghum bicolor</i> Critical crop weed competition: 35 – 40 days	Poaceae	Single cut: 50 Multi cut: 10	30 × 10 cm	Kharif, Rabi, Summer Short day plant	Single cut: CSH-1, CSH-6 Dual purpose: M.P. Chari and Pusa Chari Multi cut: COFS 29(>5 cuts)	90:50:40	Atrazine 50% WP at 0.5-0.75kga.i./ha	40-50cm	Single cut: 40-50 tonha ⁻¹ Multi cut: 100-120 ton ha ⁻¹
21	Berseem	<i>Trifolium alexandrinum</i> Critical crop weed competition: upto 25 days after sowing	Leguminaceae	10-15 (Line sowing) 20-30 (Broadcasting)	30 × 10 cm	Oct - Nov Long day plant	JB-1, JB-2, JB-3, UPB-103, IGFRI-99-1, IGFRI-54	25:50:25			70-80 Tons/ha/year In 3 cutting
22	Lucerne	<i>Medicago sativa</i> Critical crop weed competition: upto 25 days after sowing	Leguminaceae	10-15 (Line sowing) 20-30 (Broadcasting)	30 × 10 cm	Oct - Nov Long day plant	CO-1, T-9, RL-88, IGFRI-s-244	15:120:40			90-100 Tons/ha/year In 9 cutting