

## 10. Fertilizer Recommendation for Crops and Cropping Patterns

### 10.1 Fertilizer recommendation for individual crops

Soil analysis, if properly done and rightly interpreted in relation to crop response, can be used as an effective tool for location specific and yield goal basis fertilizer recommendation. The range of soil test values and their interpretations for fertilizer recommendation given in the 1997 guide needs to be updated. In this updated guide, soil test values are interpreted into 6 categories based on C.L along with their corresponding expected crop yield response for making more realistic fertilizer recommendation (Table 6). Only for high and moderate yield goals, fertilizer recommendations are suggested upto an optimum level of soil test values for micronutrients. And for micronutrients recommendations are suggested up to medium level of soil test values. No fertilizer recommendation is suggested when soil test values fall within high and very high categories. Moderate yield goal has been assumed to be around 75-80% of the high yield goal. An example of making location specific fertilizer recommendation for crops and cropping patterns on the basis of soil test yield goal and rationales is given in Appendix 8A.

This part of fertilizer recommendation guide provides guidelines for making location specific and yield goal based fertilizer recommendation for field crops, horticultural crops and plantation crops. These guidelines should be followed when specific soil analytical data and their interpretation are available.

**Table 6. Interpretation of soil test values in relation to critical limits (CL) and expected crop response (an example for phosphorus).**

Soil test value interpretation	Percent of C.L	Expected crop response
Very low	$\leq 75$	very definite
Low	75.1-150	Definite
Medium	150.1-225	likely/probable
Optimum	225.1-300	Less likely
High	300.1-375	Unlikely
Very high	$> 375$	Very unlikely

## SPECIFIC FERTILIZER RECOMMENDATION FOR CROPS

### CEREAL CROPS

#### RICE (Boro Season)

**(Var: BRRRI dhan 29, Binadhan-6 and Hybrid rice)**

Table 1. High Yield Goal ( $7.5 \pm 0.75$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-56	0-10	0-33	0-6	-
Medium	57-112	11-20	34-66	7-12	0.0-1.3
Low	113-168	21-30	67-99	13-18	1.4-2.6
Very low	168-224	31-40	100-132	19-24	2.7-3.9

Table 2. Moderate Yield Goal ( $6.0 \pm 0.60$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-40	0-7	0-23	0-4	-
Medium	41-80	8-14	24-46	5-8	0.0-1.0
Low	81-120	15-21	47-69	9-12	1.1-2.0
Very low	121-160	22-28	70-92	13-16	2.1-3.0

#### Notes: For All Yield Goals

- a) All phosphorus, potassium, sulphur, and zinc fertilizer should be applied as broadcast and incorporated with soils prior to transplanting.
- b) Nitrogen should be applied in splits. For very low to low soil test values, N should be applied in three equal splits. The first one third should be applied either at final land preparation or immediately after seedling establishment and the second onethird at rapid tillering stage. Both of these installments should be applied as broadcast and incorporated with soil following by weeding. The third installment should be applied as broadcast at 5—7 days before panicle initiation. For medium and optimum soil test values, N should be applied in 2 installments as top-dressing, one at active tillering stage followed by weeding and the other at 5—7 days before panicle initiation stage just as broadcast.
- c) For hybrid rice, apply N into 4 equal Splits ( $1/4$  as basal,  $1/4$  at active tillering stage,  $1/4$  at maximum tillering stage and final  $1/4$  at booting stage) for low to very low soil test values and for medium soil test values into 3 equal splits ( $1/3$  at 10—15 DAT,  $1/3$  at maximum tillering stage and final  $1/3$  as 5—7 DBPI). For light textured soils apply Potassium into 2 splits ( $1/3^{\text{rd}}$  at basal and  $2/3^{\text{rd}}$  at tillering stage)
- d) For use of urea super granules (USG)/urea mega Granules (UMG) as a source of nitrogen, the method of application as described in pages 40-41 should be properly followed.

## RICE (Boro Season)

**(Var: BR3, BR8, BR9, BR14, BR16, BR17, BR18, BR19 and Binadhan/4)**

Table 1. High Yield Goal ( $6.0 \pm 0.0.6$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-45	0-7	0-25	0-4	-
Medium	46-90	8-14	26-50	5-8	0.0-1.0
Low	91-135	15-21	51-75	9-12	1.1-2.0
Very low	136-180	22-28	76-100	13-16	2.1-3.0

Table 2. Moderate Yield Goal ( $4.8 \pm 0.48$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-32	0-5	0-18	0-3	-
Medium	33-64	6-10	19-36	4-6	0.0-0.7
Low	65-96	11-15	37-54	7-9	0.8-1.4
Very low	97-128	16-20	55-72	10-12	1.5-2.1

Notes: For All Yield Goals

- a) All phosphorus, potassium, sulphur, and zinc fertilizer should be applied as broadcast and incorporated with soils prior to transplanting.
- b) Nitrogen should be applied in three splits. For very low to low soil test values, N should be applied in three equal splits. The first one third should be applied either at final land preparation or immediately after seedling establishment and the second one third at rapid tillering stage. Both of these installments should be applied as broadcast and incorporated with soil followed by weeding. The third installment should be applied as broadcast at 5—7 days before panicle initiation. For medium and optimum soil test values, N should be applied in 2 installments as top-dressing, one at rapid tillering stage followed by weeding and the other at 5—7 days before panicle initiation stage as broadcast.
- c) For use of urea super granules (USG)/ urea mega Granules (UMG) as a source of nitrogen, the method of application as described in pages 40-41 should be properly followed.

## RICE (Boro Season)

( Var: **BR1, BR2, BR7, BR15, BRRI dhan 28, BRRI dhan 35 and BRRI dhan 36** )

Table 1. High Yield Goal ( $5.0 \pm 0.50$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-35	0-5	0-20	0-5	-
Medium	36-70	6-10	21-40	6-10	0.0-1.0
Low	71-105	11-15	41-60	11-15	1.1-1.5
Very low	106-140	16-20	61-80	16-20	1.6-2.0

Table 2. Moderate Yield Goal ( $4.0 \pm 0.40$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-25	0-4	0-14	0-3	-
Medium	26-50	5-8	15-28	4-6	0.0-0.5
Low	51-75	9-12	29-42	7-9	0.6-1.0
Very low	76-100	13-16	43-56	10-12	1.1-1.5

Notes: For All Yield Goals

- a) All phosphorus, potassium, sulphur, and zinc fertilizer should be applied as broadcast and incorporated with soils prior to transplanting.
- b) Nitrogen should be applied in splits. For very low to low soil test values, N should be applied in three equal splits. The first one third should be applied either at final land preparation or immediately after seedling establishment and the second one third at rapid tillering stage. Both of these installments should be applied as broadcast and incorporated with soil followed by weeding. The third installment should be applied as broadcast at 5—7 days before panicle initiation. For medium and optimum soil test values, N should be applied in 2 installments as top-dressing, one at rapid tillering stage followed by weeding and the other at 5—7 days before panicle initiation stage just as broadcast.
- c) For use of urea super granules (USG)/ urea mega granules (UMG) as a source of nitrogen, the method of application as described in pages 40-41 should be properly followed.

## RICE (Boro Season)

**(Var: LIV under transplanted culture)**

Table 1. High Yield Goal ( $3.5 \pm 0.35$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-23	0-4	0-14	0-3	-
Medium	24-46	5-8	15-28	4-6	0.0-0.6
Low	47-69	9-12	29-42	7-9	0.7-1.2
Very low	70-92	13-16	43-56	10-12	1.3-2.0

Table 2. Moderate Yield Goal ( $2.8 \pm 0.28$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-16	0-3	0-10	0-2	-
Medium	17-32	4-6	11-20	3-4	0.0-0.5
Low	33-48	7-9	21-30	5-6	0.6-1.0
Very low	49-64	10-12	31-40	7-8	1.1-1.5

Notes: For All Yield Goals

- c) All phosphorus, potassium, sulphur, and zinc fertilizer should be applied as broadcast and incorporated with soils prior to transplanting.
- d) Nitrogen should be applied in splits. For very low to low soil test values, N should be applied in three equal splits. The first one third should be applied either at final land preparation or immediately after seedling establishment and the second one third at rapid tillering stage. Both of these installments should be applied as broadcast and incorporated with soil followed by weeding. The third installment should be applied as broadcast at 5—7 days before panicle initiation. For medium and optimum soil test values, N should be applied in 2 installments as top-dressing, one at rapid tillering stage followed by weeding and the other at 5—7 days before panicle initiation stage just as broadcast.
- c) For use of urea super granules (USG)/ urea mega granules (UMG) as a source of nitrogen, the method of application as described in pages 40-41 should be properly followed.

## RICE (T. Aus Season)

(Var: BR1, BR2, BR3, BR7, BR8, BR9, BR14, BR16, BR26, BRR1 dhan-27, and Iratom-24)

Table 1. High Yield Goal ( $4.0 \pm 0.4$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-25	0-4	0-15	0-3	-
Medium	26-50	5-8	16-30	4-6	0.0-1.0
Low	51-75	9-12	31-45	7-9	1.1-1.5
Very low	76-100	13-16	46-60	10-12	1.6-2.0

Table 2. Moderate Yield Goal ( $3.2. \pm 0.32$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-18	0-3	0-11	0-2	-
Medium	19-36	4-6	12-22	3-4	0.0-0.5
Low	37-54	7-9	23-33	5-6	0.6-1.0
Very low	55-72	10-12	34-44	7-8	1.1-1.5

Notes: For All Yield Goals

- a) All phosphorus, potassium, sulphur, and zinc fertilizer should be applied as broadcast and incorporated with soils prior to transplanting.
- b) Nitrogen should be applied in splits. For very low to low soil test values, N should be applied in three equal splits. The first one third should be applied either at final land preparation or immediately after seedling establishment and the second one third at rapid tillering stage. Both of these installments should be applied as broadcast and incorporated with soil followed by weeding. The third installment should be applied as broadcast at 5—7 days before panicle initiation. For medium and optimum soil test values, N should be applied in 2 installments as top-dressing, one at rapid tillering stage followed by weeding and the other at 5—7 days before panicle initiation stage just as broadcast.
- c) For use of urea super granules (USG)/ urea mega granules (UMG) as a source of nitrogen, the method of application as described in pages 40-41 should be properly followed.

## RICE (T.Aus Season)

( Var: BR6, BR20, BR21 and BR24 )

Table 1. High Yield Goal ( $3.5 \pm 0.35$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-17	0-4	0-11	0-3	-
Medium	18-34	5-8	12-22	4-6	0.0-1.0
Low	35-51	9-12	23-33	7-9	1.1-1.5
Very low	52-68	13-16	34-44	10-12	1.6-2.0

Table 2. Moderate Yield Goal ( $2.8 \pm 0.28$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-12	0-3	0-8	0-2	-
Medium	13-24	4-6	9-16	3-4	0.0-0.5
Low	25-36	7-9	17-24	5-6	0.6-1.0
Very low	37-48	10-12	25-32	7-8	1.1-1.5

Notes: For All Yield Goals

- a) All phosphorus, potassium, sulphur, and zinc fertilizer should be applied as broadcast and incorporated with soils prior to transplanting.
- b) Nitrogen should be applied in splits. For very low to low soil test values, N should be applied in three equal splits. The first onethird should be applied either at final land preparation or immediately after seedling establishment and the second one third at rapid tillering stage. Both of these installments should be applied as broadcast and incorporated with soil followed by weeding. The third installment should be applied as broadcast at 5—7 days before panicle initiation. For medium and optimum soil test values, N should be applied in 2 installments as top-dressing, one at rapid tillering stage followed by weeding and the other at 5—7 days before panicle initiation stage just as broadcast.
- c) For use of urea super granules (USG)/ urea mega granules (UMG) as a source of nitrogen, the method of application as described in pages 40-41 should be properly followed.

**RICE (Aus season)**  
( Var: LIV under direct seeded culture)

Table 1. Average Yield Goal ( $2.5 \pm 0.25$ /ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-10	0-3	0-8	0-2	-
Medium	11-20	4-6	9-16	3-4	0.0-0.5
Low	21-30	7-9	17-24	5-6	0.6-1.0
Very low	31-40	10-12	25-32	7-8	1.1-1.5

Notes:

- a) All phosphorus, potassium, sulphur, and zinc fertilizer should be applied as broadcast and incorporated with soils prior to planting.
- b) Nitrogen fertilizer should be applied as broadcast in two equal installments, the 1<sup>st</sup> one at the tiller initiation stage and should be incorporated with soil during harrowing/1<sup>st</sup> weeding and the 2<sup>nd</sup> one at 5—7 days before panicle initiation.
- c) For use of urea super granules (USG)/ urea mega granules (UMG) as a source of nitrogen, the method of application as described in pages 44-45 should be properly followed.

**RICE (T.Aman Season)**

( Var: BR4, BR10, BR11, BR22, BR23, BRRIdhan 30, BRRIdhan 31, BRRIdhan 32 and Binadhan 4 )

Table 1. High Yield Goal ( $5.0 \pm 0.5$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-30	0-5	0-17	0-4	-
Medium	31-60	6-10	18-34	5-8	0.0-1.0
Low	61-90	11-15	35-51	9-12	1.1-1.5
Very low	91-120	16-20	52-72	13-16	1.6-2.0

Table 2. Moderate Yield Goal ( $4.0. \pm 0.4$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-22	0-4	0-13	0-3	-
Medium	23-44	5-8	14-26	4-6	0.0-0.5
Low	45-66	9-12	27-39	7-9	0.6-1.0
Very low	67-84	13-16	40-52	10-12	1.1-1.5

Notes: For All Yield Goals

- a) All phosphorus, potassium, sulphur, and zinc fertilizer should be applied as broadcast and incorporated with soils prior to transplanting.
- b) Nitrogen should be applied in splits. For very low to low soil test values, N should be applied in three equal splits. The first onethird should be applied either at final land preparation or immediately after seedling establishment and the second one third at rapid tillering stage. Both of these installments should be applied as broadcast and incorporated with soil followed by weeding. The third installment should be applied as broadcast at 5—7 days before panicle initiation. For medium and optimum soil test values, N should be applied in 2 installments as top-dressing, one at rapid tillering stage followed by weeding and the other at 5—7 days before panicle initiation stage just as broadcast.
- c) For use of urea super granules (USG)/ urea mega granules (UMG) as a source of nitrogen, the method of application as described in pages 40-41 should be properly followed.

### **RICE (T.Aman Season)**

(Var: BR25, BRRIdhan 33, BRRIdhan 39, and Binashail )

Table 1. High Yield Goal ( $4.0 \pm 0.4$  t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-20	0-4	0-11	0-3	-
Medium	21-40	5-8	12-22	4-6	0.0-1
Low	41-60	9-12	23-33	7-9	0.1-1.5
Very low	61-80	13-16	34-44	10-12	1.6-2.0

Table 2. Moderate Yield Goal ( $3.2 \pm 0.32$ /ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-14	0-3	0-8	0-2	-
Medium	15-28	4-6	9-16	3-4	0.0-0.5
Low	29-42	7-9	17-24	5-6	0.6-1.0
Very low	43-56	10-12	25-32	7-8	1.1-1.5

Notes: For All Yield Goals

- a) All phosphorus, potassium, sulphur, and zinc fertilizer should be applied as broadcast and incorporated with soils prior to transplanting.
- b) Nitrogen should be applied in splits. For very low to low soil test values, N should be applied in three equal splits. The first onethird should be applied either at final land preparation or immediately after seedling establishment and the second onethird at rapid tillering stage. Both of these installments should be applied as broadcast and incorporated with soil followed by weeding. The third installment should be applied as broadcast at 5—7 days before panicle initiation. For medium and optimum soil test values, N should be applied in 2 installments as top-dressing, one at rapid tillering stage followed by weeding and the other at 5—7 days before panicle initiation stage just as broadcast.

- c) For use of urea super granules (USG)/ urea mega granules (UMG) as a source of nitrogen, the method of application as described in pages 40-41 should be properly followed.

### RICE (T.Aman Season)

( Var: BR 5, BRRIdhan 34, BRRIdhan 37, and BRRIdhan 38 )

Table 1. Average Yield Goal ( $3.0 \pm 0.3/\text{ha}$ )

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-15	0-2	0-8	0-3	-
Medium	16-30	3-4	9-16	4-6	0.0-0.5
Low	31-45	5-6	17-24	7-9	0.6-1.0
Very low	46-60	7-8	25-32	10-12	1.1-1.5

#### Notes:

- a) All phosphorus, potassium, sulphur, and zinc fertilizer should be applied as broadcast and incorporated with soils prior to transplanting.
- b) Nitrogen should be applied in splits. For very low to low soil test values, N should be applied in three equal splits. The first one third should be applied either at final land preparation or immediately after seedling establishment and the second one third at rapid tillering stage. Both of these installments should be applied as broadcast and incorporated with soil followed by weeding. The third installment should be applied as broadcast at 5—7 days before panicle initiation. For medium and optimum soil test values, N should be applied in 2 installments as top-dressing, one at rapid tillering stage followed by weeding and the other at 5—7 days before panicle initiation stage just as broadcast.
- c) For use of urea super granules (USG)/ urea mega granules (UMG) as a source of nitrogen, the method of application as described in pages 40-41 should be properly followed.

**RICE (T.Aman Season)**  
**( Var: LIV under transplant culture)**

Table 1. Average Yield Goal ( $3.0 \pm 0.3/\text{ha}$ )

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0-15	0-3	0-11	0-3	-
Medium	16-30	4-6	12-22	4-6	0.0-0.5
Low	31-45	7-9	23-33	7-9	0.6-1.0
Very low	46-60	10-12	34-44	10-12	1.1-1.5

Notes:

- a) All phosphorus, potassium, sulphur, and zinc fertilizer should be applied as broadcast and incorporated with soils prior to transplanting.
- b) Nitrogen should be applied in splits. For very low to low soil test values, N should be applied in three equal splits. The first onethird should be applied either at final land preparation or immediately after seedling establishment and the second one third at rapid tillering stage. Both of these installments should be applied as broadcast and incorporated with soil followed by weeding. The third installment should be applied as broadcast at 5—7 days before panicle initiation. For medium and optimum soil test values, N should be applied in 2 installments as top-dressing, one at rapid tillering stage followed by weeding and the other at 5—7 days before panicle initiation stage just as broadcast.
- c) For use of urea super granules (USG)/ urea mega granules (UMG) as a source of nitrogen, the method of application as described in pages 40-41 should be properly followed.

**Fertilizer recommendation for seed-bed**

Generally fertilizer is not required to apply in the seed-bed if it is prepared in optimum or sub-optimum fertile soil. For low or nonfertile soil, cowdung or farmyard manure @  $2 \text{ kg/m}^2$  can be applied. If seedlings become yellow, urea should be top dressed @  $7 \text{ g/m}^2$  after 2 weeks of germination. If seedlings still remain yellowish even after urea application, then it can be considered as sulphur deficiency symptom. In those cases, gypsum should be applied @  $10 \text{ g/m}^2$  as to top dress. In the winter season, seedlings of boro rice may become reddish or yellowish due to cold injury which may be confused as tungro disease.

## WHEAT (Irrigated)

(Var: Kanchan, Gourab, Protiva, Sourav, Agrahani and Shatabdi)

**Table 1: High Yield Goal (Yield:  $4.5 \pm 0.45$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Mg	Zn	B
Optimum	0—40	0—10	0—30	0—5	—	—	—
Medium	41—80	11—20	31—60	6—10	0—3	0.0—1.3	0.0—0.3
Low	81—120	21—30	61—90	11—15	4—6	1.4—2.6	0.4—0.6
Very low	121— 160	31—40	91—120	16—20	7—12	2.7—4.0	0.7—0.9

**Table 2: Moderate Yield Goal (Yield:  $3.5 \pm 0.35$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Mg	Zn	B
Optimum	0—30	0—8	0—25	0—4	—	—	—
Medium	31—60	9—16	26—50	5—8	0.0—2.5	0.0—1.0	0.0—0.2
Low	61—90	17—24	51—75	9—12	2.6—5.0	1.1—2.0	0.3—0.4
Very low	91—120	25—32	76—100	13—16	9.1—7.5	2.1—3.0	0.4—0.6

Notes: For All Yield Goals

- a) One-third of the nitrogen and all the phosphorus, potassium, sulphur and zinc should be applied as broadcast and incorporated prior to sowing.
- b) Remaining two thirds of nitrogen should be applied in equal amounts at 20-25 DAS and 50-55 DAS as top dressing followed by irrigation.

## WHEAT (Rainfed)

( Var: Kanchan, Akhbar, Gourab, Protiva, Sourav and Shatabdi )

**Table 1: Average Yield Goal (Yield:  $2.5 \pm 0.25$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Mg	Zn	B
Optimum	0—15	0—5	0—12	0—2.5	—	—	—
Medium	16—30	6—10	13—24	2.6—5.0	—	—	—
Low	31—45	11—15	25—36	5.1—7.5	0.0—3.0	0.0—1.0	1.4—2.6
Very low	46—60	16—20	37—48	7.6—10.0	3.1—6.0	1.1—2.0	2.7—4.0

Notes:

- All fertilizers should be applied as basal prior to sowing
- Application of 2-4 t/ha cowdung/organic manure is recommended for soils having low to very low fertilization status. The dose of N, P, K & S may be reduced based on quantity of CD/OM to be applied as per Table-1.

## MAIZE

**Var: Hybrid Maize (BARI hybrid Bhutta-1, BARI hybrid Bhutta-2, BARI hybrid Bhutta-3 and other hybrids)**

**Table 1: High Yield Goal (Yield:  $8.0 \pm 0.8$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Mg	Zn	B
Optimum	0—65	0—18	0—37	0—12	0—5	—	—
Medium	66—130	19—36	38—74	13—24	6—10	0.0—2.0	0.0—0.7
Low	131— 195	37—54	75—111	25—36	11—15	2.1—4.0	0.71—1.4
Very low	196— 260	55—72	112— 148	37—48	16—20	4.1—6.0	1.41—2

Notes:

- One-third of nitrogen, and all phosphorus, potassium, sulphur, magnesium, zinc and boron should be applied as broadcast. This should be applied prior to sowing.

- b) Remaining nitrogen should be applied in two equal installments as top dressing at 8-10 leaf stage (30-35 DAS) and at tasselling stage (50-60 DAS) for rabi season followed by irrigation.
- c) For kharif season, remaining N should be applied in 2 equal installments as top dressing at 8-10 leaf stage (20-25 DAS) and at tasselling stage (45-50 DAS).
- d) Application of 3-5 t/ha cowdung/organic manure is recommended for soils having low to very low fertility status. The dose of N, P, K & S may be reduced based on quantity of OM/CD to be applied as per Table-1.
- e) The above doses of nutrients are applicable to maize grown in rabi season. Such doses may be reduced by 30% when the crop is grown in kharif-2 season.

## MAIZE

( Var: BARI Bhutta-5 and BARI Bhutta-6 )

**Table 1: High Yield Goal (Yield:  $6.0 \pm 0.6$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Mg	Zn	B
Optimum	0—50	0—16	0—32	0—10	—	—	—
Medium	51—100	17—32	33—64	11—20	0—4	0.0—1.4	0.0—0.7
Low	101—150	33—48	65—96	21—30	5—8	1.5—2.8	0.71—1.41
Very low	151—200	49—64	97—128	31—40	9—12	2.9—4.0	1.41—2.0

**Table 2: Moderate Yield Goal (Yield:  $5.0 \pm 0.5$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Mg	Zn	B
Optimum	0—35	0—12	0—25	0—7	—	—	—
Medium	36—70	13—24	26—50	8—14	0—3	0—1.0	0—0.5
Low	71—105	25—36	51—75	15—21	4—6	1.1—2.0	0.51—1.0
Very low	106—140	37—48	76—100	22—28	7—9	2.1—3.0	1.11—1.5

Notes: For all Yield Goals

- a) Onethird of nitrogen, and all phosphorus, potassium, sulphur, magnesium, zinc and boron should be applied as broadcast. This should be applied just prior to planting.

- b) Remaining nitrogen should be applied in two equal installments as top dressing at 8-10 leaf stage (30-35 DAS) and at tasselling stage (50-60 DAS)
- c) For kharif season, remaining nitrogen should be applied in two equal installments as top dressing at 8-10 leaf stage (20-25 DAS) and at tasselling stage (40-50 DAS).
- d) Application of 2-3 t/ha cowdung/organic manure is recommended for soils having low to very low fertility. The dose of N, P, K & S may be reduced based on quantity of CD/OM to be applied as per Table-1.
- e) The above doses of nutrients are applicable to maize grown in rabi season. Such doses may be reduced by 30% when the crop is grown in kharif-2 season.

## MAIZE

( Var: Shuvra, Mohor, Barnali and Khoibhutta )

**Table 1: High Yield Goal (Yield: 5.5 ± 0.5 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Mg	Zn	B
Optimum	0—40	0—20	0—25	0—10	—	—	—
Medium	41—80	21—30	26—50	11—20	0—3	0.0—1.4	0.0—1.5
Low	81—120	31—40	51—75	21—30	4—6	1.5—2.8	1.6—3.0
Very low	121— 160	41—50	76—100	31—40	7—9	2.9—4.2	3.1—4.5

Note: Application of 2-4 t/ha cowdung/organic manure is recommended for soils having low to very low fertility. The dose of N, P, K & S may be reduced based on quantity of CD/OM to be applied as per Table-1.

**Table 2: Moderate Yield Goal ( Yield: 4.5 ± 0.5 t/ha )**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Mg	Zn	B
Optimum	0—30	0—14	0—18	0—7	—	—	—
Medium	31—60	15—21	19—36	8—14	0—3	0.0—1.0	0.0—1.0
Low	61—90	22—28	37—54	15—21	4—6	1.1—2.0	1.1—1.5
Very low	91—120	29—36	55—72	22—28	7—8	2.1—3.0	1.6—3.0

### Notes: For All Yield Goals

- a) Onethird of nitrogen, and all phosphorus, potassium, sulphur, magnesium, zinc and boron should be applied as broadcast. This should be applied just prior to planting.

- b) Remaining nitrogen should be applied in two equal installments as top dressing at 8-10 leaf stage (30-35 DAS) and at tasselling stage (50-60 DAS)
- c) For kharif season, remaining nitrogen should be applied in two equal installments as top dressing at 8-10 leaf stage (20-25 DAS) and at tasselling stage (40-50 DAS).
- d) Application of 1-2 t/ha cowdung/organic manure is recommended for soils having fertility status low to very low. The dose of N, P, K & S may be reduced based on quantity of CD/OM to be applied as per Table-1.
- e) The above doses of nutrients are applicable to maize grown in rabi season. Such doses may be reduced by 30% when the crop is grown in kharif-2 season.

## BARLEY

( Var: BARI Barley-1 and BARI Barley-2 )

**Table 1: High Yield Goal (Yield: 3.0 ± 0.3 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0—20	0—7	0—17	0—3	—
Medium	21—40	8—14	18—34	4—6	0.0—1.0
Low	41—60	15—21	35—51	7—9	1.1—2.0
Very low	61—80	22—28	52—68	10—12	2.1—3.0

**Table 2: Moderate Yield Goal ( Yield: 2.5 ± 0.25 t/ha )**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0—15	0—5	0—15	0—2	—
Medium	16—30	6—10	16—30	3—4	0.0—0.7
Low	31—45	11—15	31—45	5—6	0.71—1.40
Very low	46—60	16—20	46—60	7—8	1.41—2.0

### Notes: For All Yield Goals

- a) Half nitrogen and all phosphorus, potassium, sulphur and zinc should be applied and incorporated during field preparation
- b) Remaining nitrogen should be applied as broadcast at 30-35 DAS and 55-60 DAS followed by irrigation
- c) In case of rainfed, all fertilizers should be applied as basal prior to sowing

**CHEENA**  
(Var: Tushar)

**Table 1: High Yield Goal (Yield:  $2.5 \pm 0.25$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0—20	0—7	0—15	0—3	—
Medium	21—40	8—14	16—30	4—6	0.0—0.7
Low	41—60	15—21	31—45	7—9	0.8—1.4
Very low	61—80	22—28	46—60	10—12	1.5—2.1

**Table 2: Moderate Yield Goal (Yield:  $2.0 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0—15	0—5	0—11	0—2	—
Medium	16—30	6—10	12—22	3—4	0.0—0.5
Low	31—45	11—15	23—33	5—6	0.6—1.0
Very low	46—60	16—20	34—44	7—8	1.1—1.5

Notes: For All Yield Goals

- a) Half nitrogen and all phosphorus, potassium, sulphur and zinc should be applied and incorporated during land preparation
- b) Remaining nitrogen should be applied as broadcast at 30-35 DAS followed by irrigation.
- c) In case of rainfed, all fertilizers should be applied as basal prior to sowing

## KAON

(Var: Titash, BARI Kaon-2 and BARI Kaon-3)

**Table 1: High Yield Goal (Yield:  $3.0 \pm 0.3$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0—20	0—8	0—14	0—3	—
Medium	21—40	9—16	15—28	4—6	0.0—0.7
Low	41—60	17—24	29—42	7—9	0.8—1.4
Very low	61—80	25—32	43—56	10—12	1.5—2.1

**Table 2: Moderate Yield Goal (Yield:  $2.5 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0—15	0—6	0—10	0—2	—
Medium	16—30	7—12	11—20	3—4	0.0—0.5
Low	31—45	13—18	21—30	5—6	0.6—1.0
Very low	46—60	19—24	31—40	7—8	1.1—1.5

### Notes: For All Yield Goals

- Half nitrogen and all phosphorus, potassium, sulphur and zinc should be applied and incorporated during land preparation
- Remaining nitrogen should be applied as broadcast at 30-35 DAS and 55-60 DAS followed by irrigation.
- In case of rainfed, all fertilizers should be applied as basal prior to sowing

**FIBRE CROPS**  
**JUTE (*Corchorus capsularis*)**

(Var. D-154, CVL-1, CVE-3, CC-45, Atompat 38, Dalipat-5, Dalipat-6, BJRI Deshi-5, and BJRI Deshi-6)

**Table 1: High Yield Goal (Yield:  $3.5 \pm 0.4$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0—20	0—6	0—18	0—4	—
Medium	21—40	7—12	19—36	5—8	0.0—1.0
Low	41—60	13—18	37—54	9—12	1.1—2.0
Very low	61—80	19—24	55—72	13—16	2.1—3.0

**Table 1: Moderate Yield Goal (Yield:  $2.8 \pm 0.3$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0—14	0—4	0—13	0—3	—
Medium	15—28	5—8	14—26	4—6	0.0—0.6
Low	29—42	9—12	27—39	7—9	0.7—1.4
Very low	43—56	13—16	40—52	10—12	1.5—2.2

**Notes: For All Yield Goals**

- a) One half of the nitrogen, and all phosphorus, potassium, sulphur and zinc should be broadcast and incorporated during final land preparation.
- b) Remaining nitrogen should be top dressed and incorporated by hoeing after 40 to 45 days of sowing when the soil is moist or just prior to irrigation.
- c) If cowdung is applied, it should be broadcast and incorporated about two weeks before sowing.
- d) If cowdung (4-5 t/ha) is used, fertilizers other than nitrogen fertilizer may not be necessary and N-dose may be reduced to 20-30%.
- e) In single jute cultivation, zinc will be applied only when it is deficient.

## JUTE (*Corchorus Olitorius*)

(Var. Tosapat-2 (0-9897), BJRI Tosapat-3 (OM-1), BJRI Tosapat-4(0-72) and BINA deshipat-2)

**Table 1: High Yield Goal (Yield:  $4.5 \pm 0.5$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0—35	0—7	0—27	0—7	—
Medium	36—70	8—14	28—54	8—14	0.0—2.6
Low	71—105	15—21	55—81	15—21	2.7—5.2
Very low	106—140	22—28	82—108	22—28	5.3—8.0

**Table 1: Moderate Yield Goal (Yield:  $3.5 \pm 0.4$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0—25	0—5	0—19	0—5	—
Medium	26—50	5—10	20—38	5—10	0.0—2.0
Low	51—75	11—15	39—57	11—15	2.1—4.0
Very low	76—100	16—20	58—76	16—20	4.1—6.0

### Notes: For All Yield Goals

- a) One half of the nitrogen, and all phosphorus, potassium, sulphur and zinc should be broadcast and incorporated during final land preparation.
- b) Remaining nitrogen should be top dressed and incorporated by hoeing after 40 to 45 days of sowing when the soil is moist or just prior to irrigation.
- c) If cowdung is applied, it should be broadcast and incorporated about two weeks before sowing.
- d) If cowdung (4-5 t/ha) is used, fertilizer other than nitrogen may not be necessary and N-dose may be reduced up to 20-30%

**LATE JUTE SEED PRODUCTION**  
**(Var: BJRI-2 and Falgooni Tossa-0-9897)**

Yield Goal (kg/ha)	Fertilizer Recommendation (kg/ha)					
	N	P	K	S	Zn	B
High (600-950)	90	20	20	20	8	2
Medium(400-600)	50	15	10	20	4	1

**Notes:**

- a) Total amount of phosphorus, potassium sulphur, zinc and boron should be broadcast and incorporated during final land preparation.
- b) Nitrogen fertilizer should be applied in three equal splits. The first one third should be applied at the date of sowing as basal. The second and the third installments should be applied after 20-25 days and 40 to 45 days of seedings as top dressing
- c) Boron will be applied only in deficient soil.

## COTTON

(All varieties)

**Table 1: High Yield Goal (Yield:  $2.5 \pm 0.3$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0—37	0—11	0—33	0—6	—
Medium	38—74	12—22	34—66	7—12	0.0—2.0
Low	75—111	23—33	67—99	13—18	2.1—4.0
Very low	112—148	34—44	100—132	19—24	4.1—6.0

**Table 1: Moderate Yield Goal (Yield:  $2.0 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				
	N	P	K	S	Zn
Optimum	0—26	0—8	0—23	0—4	—
Medium	27—52	9—16	24—46	5—8	0.0—1.3
Low	53—78	17—24	47—69	9—12	1.4—2.6
Very low	79—104	25—32	70—92	13—16	2.7—4.0

### Notes: For All Yield Goals

- a) All phosphorus, potassium, sulphur and zinc and one third of nitrogen should be applied at final land preparation in the bottom of furrow and covered by 4-5 cm soil prior to planting.
- b) Remaining nitrogen should be side dressed and covered with soil in two equal installments at 10 and 60 days after planting, when the soil is moist or just prior to irrigation.

## KENAF

( Var: HC—2 and HC—95 )

**Table 1: Average Yield Goal (Yield: 5.0 ± 0.5 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)			
	N	P	K	S
Optimum	0—11	0—3	0—8	0.0—1.5
Medium	12—22	4—6	9—16	1.6—3.0
Low	23—33	7—9	17—24	3.1—4.5
Very low	34—44	10—12	25—32	4.6—6.0

**Notes:**

- One half of nitrogen, and all phosphorus, potassium, sulphur and zinc should be broadcast and incorporated during final land preparation.
- Remaining nitrogen should be top dressed and incorporated by hoeing when the soil is moist or just to irrigation.
- If cowdung is applied, it should be broadcast and incorporated about two weeks before sowing.

## MESTA

(Var: HS—24)

**Table 1: Average Yield Goal (Yield: 4.5 ± 0.45 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)			
	N	P	K	S
Optimum	0—10	0—3	0—11	0.0—1.0
Medium	11—20	4—6	12—22	1.1—2.0
Low	21—30	7—9	23—33	2.1—3.0
Very low	31—40	10—12	34—44	3.1—4.0

**Notes:**

- One half of nitrogen, and all phosphorus, potassium and sulphur should be broadcast and incorporated during final land preparation.
- Remaining nitrogen should be top dressed and incorporated by hoeing when the soils is moist or just prior to irrigation.
- If cowdung is applied, it should be broadcast and incorporated about two weeks before sowing.

**SUNHEMP (Shonpat)**  
**( Var: Kanpur-12, T-6 )**

**Table 1: Average Yield Goal (Yield:  $1.5 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)			
	N	P	K	S
Optimum	0—5	0—3	0—6	0.0—1.5
Medium	6—10	4—6	7—12	1.6—3.0
Low	11—15	7—9	13—18	3.1—4.5
Very low	16—20	10—12	19—24	4.6—6.0

**Notes:**

- a) One half of nitrogen, and all phosphorus, potassium and sulphur should be broadcast and incorporated during final land preparation.
- b) Remaining nitrogen should be top dressed and incorporated by hoeing when the soils is moist or just prior to irrigation.
- c) If cowdung is applied, it should be broadcast and incorporated about two weeks before sowing.

## PULSE CROPS

### LENTIL

( Var: BARI Masur-1, BARI Masur-2, BARI Masur-3 and BARI Masur-4 )

**Table 1: High Yield Goal (Yield:  $1.8 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Zn	B	Mo
Optimum	0—6	0—10	0—12	0—6	—	—	—
Medium	7—12	11—20	13—24	7—12	0.0—1.0	0.0—0.4	0—0.2
Low	13—18	21—30	25—36	13—18	1.1—2.0	0.5—0.8	0.3—0.4
Very low	19—24	31—40	37—48	19—24	2.1—3.0	0.9—1.2	0.5—0.6

**Table 2: Moderate Yield Goal (Yield:  $1.5 \pm 0.15$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Zn	B	Mo
Optimum	0—5	0—9	0—10	0—5	—	—	—
Medium	6—10	10—18	11—20	6—10	0—0.7	0.0—0.3	0.0—0.15
Low	11—15	19—27	21—30	11—15	0.8—1.4	0.4—0.6	0.16—0.30
Very low	16—20	28—36	31—40	16—20	1.5—2.0	0.7—1.0	0.31—0.45

#### Notes: For All Yield Goals

a) All fertilizers should be broadcast and incorporated at the time of final land preparation

b) Inoculum (50 gm for 1 kg seed or 4-5 kg inoculum/ha) must be used when available and in that case N fertilizer should not be used.

## CHICKPEA

(Var: BARI Chola-2, BARI Chola-3, BARI Chola-4, BARI Chola-5, BARI Chola-6 and BINA Chola-2)

**Table 1: High Yield Goal (Yield:  $2.5 \pm 0.25$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Zn	B	Mo
Optimum	0—6	0—10	0—12	0—6	—	—	—
Medium	7—12	11—20	13—24	7—12	0.0—1.0	0.0—0.4	0—0.2
Low	13—18	21—30	25—36	13—18	1.1—2.0	0.5—0.8	0.3—0.4
Very low	19—24	31—40	37—48	19—24	2.1—3.0	0.9—1.2	0.5—0.6

**Table 2: Moderate Yield Goal (Yield:  $2.0 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Zn	B	Mo
Optimum	0—5	0—9	0—10	0—5	—	—	—
Medium	6—10	10—18	11—20	6—10	0—0.7	0.0—0.3	0.0—0.15
Low	11—15	19—27	21—30	11—15	0.8—1.4	0.4—0.6	0.16—0.30
Very low	16—20	28—36	31—40	16—25	1.5—2.4	0.7—0.9	0.31—0.45

### Notes: For All Yield Goals

a) All fertilizers should be broadcast and incorporated at the time of final land preparation.

b) Inoculum (50 gm or 1 kg seed for 4-5 kg inoculum/ha) must be used when available and in that case N fertilizer should not be used.

## MUNGBEAN/GREENGRAM

(Var: BARI Mung-2, BARI Mung-3, BARI Mung-4, BARI Mung-5,  
BINA Mung-4, BINA Mung-5 and BAU Mung-1)

**Table 1: High Yield Goal (Yield:  $1.5 \pm 0.15$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Zn	B	Mo
Optimum	0—6	0—10	0—12	0—6	—	—	—
Medium	7—12	11—20	13—24	7—12	0.0—1.0	0.0—0.4	0—0.2
Low	13—18	21—30	25—36	13—18	1.1—2.0	0.5—0.8	0.3—0.4
Very low	19—24	31—40	37—48	19—24	2.1—3.0	0.9—1.2	0.5—0.6

**Table 2: Moderate Yield Goal (Yield:  $1.2 \pm 0.12$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Zn	B	Mo
Optimum	0—5	0—9	0—10	0—5	—	—	—
Medium	6—10	10—18	11—20	6—10	0.0—0.7	0.0—0.3	0.0—0.15
Low	11—15	19—27	21—30	11—15	0.8—1.4	0.4—0.6	0.16—0.30
Very low	16—20	28—36	31—40	16—25	1.5—2.0	0.7—1.0	0.31—0.45

### Notes: For All Yield Goals

a) All fertilizers should be broadcast and incorporated at the time of final land preparation.

b) Inoculum (50 gm for 1 kg seed or 4-5 kg inoculum/ha) must be used when available and in that case N fertilizer should not be used.

## BLACKGRAM

(Var: BARI Mash-1, BARI Mash-2, BARI Mash-3 and BINA Mash-1)

**Table 1: High Yield Goal (Yield:  $1.5 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)			
	N	P	K	S
Optimum	0—6	0—5	0—6	0—3
Medium	7—12	6—10	7—12	4—6
Low	13—18	11—15	13—18	7—9
Very low	19—24	16—20	19—24	10—12

**Table 2: Moderate Yield Goal (Yield:  $1.0 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)			
	N	P	K	S
Optimum	0—4	0—4	0—5	0—2
Medium	5—8	5—8	6—10	3—4
Low	9—12	9—12	11—15	5—6
Very low	13—16	13—16	16—20	7—8

### Notes: For All Yield Goals

- a) All fertilizers should be broadcast and incorporated at the time of final land preparation.
- b) Inoculum (50 gm inoculum for 1 kg seed or 4-5 kg inoculum/ha) must be used when available and in that case N fertilizer should not be used.

**KHESARI (Grasspea)**  
**(Var: BARI Khesari-1 and BARI Khesari-2)**

**Table 1: High Yield Goal (Yield:  $1.5 \pm 0.15$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)			
	N	P	K	S
Optimum	0—5	0—5	0—6	0—3
Medium	6—10	6—10	7—12	4—6
Low	11—15	11—15	13—18	7—9
Very low	16—20	16—20	19—24	10—12

**Table 2: Moderate Yield Goal (Yield:  $1.2 \pm 0.1$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)			
	N	P	K	S
Optimum	0—4	0—3	0—4	0—2
Medium	5—8	4—6	5—8	3—4
Low	9—12	7—9	9—12	5—6
Very low	13—16	10—12	13—16	7—8

**Notes: For All Yield Goals**

- a) All fertilizers should be broadcast and incorporated at the time of final land preparation.
- b) Inoculum (100 gm for 1 kg seed) must be used when available and in that case N fertilizer should not be used.

**COWPEA**  
(Var: BARI Felon-1 and BARI Felon-2)

**Table 1: High Yield Goal (Yield:  $1.4 \pm 0.14$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)			
	N	P	K	S
Optimum	0—5	0—5	0—6	0.0—2.5
Medium	6—10	6—10	7—12	2.6—5.0
Low	11—15	11—15	13—18	5.1—7.5
Very low	16—20	16—20	19—24	7.6—10.0

**Table 2: Moderate Yield Goal (Yield:  $1.0 \pm 0.1$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)			
	N	P	K	S
Optimum	0—4	0—3	0—4	0—2
Medium	5—8	4—6	5—8	3—4
Low	9—12	7—9	9—12	5—6
Very low	13—16	10—12	13—16	7—8

**Notes: For All Yield Goals**

- a) All fertilizers should be broadcast and incorporated at the time of final land preparation.
- b) Inoculum (50 gm for 1 kg seed or 4-5 kg/ha) must be used when available and in that case N fertilizer should not be used.

## OIL SEED CROPS

MUSTARD (*Brassica napus* and *Brassica juncea*)

(Var: Daulat, BARI Sarisha-7, BARI Sarisha-8, BARI Sarisha-10, BARI Sarisha-11, BARI Sarisha-13, Rai-5, BINA Sarisha-3 and BINA Sarisha-4 )

**Table 1: High Yield Goal (Yield:  $2.0 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Mg	Zn	B
Optimum	0—40	0—12	0—30	0—9	—	—	—
Medium	41—80	13—24	31—60	10—18	0—3	0.0—1.5	0.0—0.4
Low	81—120	25—36	61—90	19—27	4—6	1.6—3.0	0.5—0.8
Very low	121—160	37—46	91—120	28—36	7—9	3.1—4.5	0.9—1.2

**Table 2: Moderate Yield Goal (Yield:  $1.6 \pm 0.16$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Mg	Zn	B
Optimum	0—28	0—9	0—22	0—7	—	—	—
Medium	29—56	10—18	23—44	8—14	0—2	0.0—1.0	0.0—0.3
Low	57—84	19—27	45—66	15—21	3—5	1.1—2.0	0.4—0.6
Very low	85—112	28—36	67—88	22—28	6—8	2.1—3.0	0.7—0.9

### Notes: For All Yield Goals

- Half nitrogen and all the phosphorus, potassium, sulphur, magnesium, zinc and boron should be applied as broadcast and incorporated during final land preparation.
- Remaining half nitrogen should be applied at the time of flower initiation (25 days after seeding) as top dressing followed by irrigation (if moisture is insufficient).
- In case of rainfed, all fertilizers should be applied as basal prior to seeding.

## MUSTARD (*Brassica Campestris*)

( Var: Tori-7, BARI sarisha-6, BARI sarisha-9, BARI sarisha-12, BT-303, TS-72, SS-75, Binasarisha-5, Binasarisha -6, Safal and Agrani)

**Table 1: High Yield Goal (Yield:  $1.5 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Mg	Zn	B
Optimum	0—25	0—8	0—20	0—5	—	—	—
Medium	26—50	9—16	21—40	6—10	0.0—2.5	0.0—1.0	0.0—0.4
Low	51—75	17—24	41—60	11—15	2.6—5.0	1.1—2.0	0.5—0.6
Very low	76—100	25—32	61—80	16—20	5.1—7.5	2.1—3.0	0.7—0.8

**Table 2: Moderate Yield Goal (Yield:  $1.2 \pm 0.1$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Mg	Zn	B
Optimum	0—18	0—6	0—15	0—4	—	—	—
Medium	19—36	7—12	16—30	5—8	0.0—2.0	0.0—0.7	0.0—0.3
Low	37—54	13—18	31—45	9—12	3.0—4.0	0.8—1.4	0.4—0.5
Very low	55—72	19—24	46—60	13—16	5.0—6.0	1.5—2.1	0.6—0.7

### Notes: For All Yield Goals

- Half nitrogen and all the phosphorus, potassium, sulphur, magnesium, zinc and boron should be applied as broadcast and incorporated during final land preparation.
- Remaining half nitrogen should be applied at the time of flower initiation (20 days after seeding) as top dressing followed by irrigation (if moisture is insufficient).
- In case of rainfed, all fertilizers should be applied as basal prior to seeding.

## SESAME (TIL)

( Var: BARI Til-1, BARI Til -2, BARI Til-3 and BINA Til- 1 )

**Table 1: High Yield Goal (Yield:  $1.3 \pm 0.1$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)					
	N	P	K	S	Zn	B
Optimum	0—26	0—9	0—16	0—7	—	—
Medium	27—52	10—18	17—32	8—14	0.0—1.3	0.0—0.3
Low	53—78	19—27	33—48	15—21	1.4—2.6	0.4—0.6
Very low	79—104	28—36	49—64	22—28	2.7—4.0	0.7—0.9

**Table 2: Moderate Yield Goal (Yield:  $1.0 \pm 0.1$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)					
	N	P	K	S	Zn	B
Optimum	0—18	0—7	0—11	0—5	—	—
Medium	19—36	8—14	12—22	6—10	0—1.0	0—0.2
Low	37—54	15—21	23—33	11—15	1.1—2.0	0.3—0.4
Very low	55—72	22—28	34—44	16—20	2.1—3.0	0.5—0.6

Notes: For All Yield Goals

- a) One half of nitrogen, and all phosphorus, potassium, sulphur, zinc and boron should be broadcast and incorporated during final land preparation.
- b) Remaining nitrogen should be applied as top dressing at 25-30 days after sowing followed by irrigation (if moisture is insufficient)

**SUNFLOWER**  
{ Var: Kironi (DS-1) }

**Table 1: High Yield Goal (Yield:  $1.5 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Mg	Zn	B
Optimum	0—35	0—10	0—20	0—10	—	—	—
Medium	36—70	11—20	21—40	11—20	0—3.0	0.0—1.0	0.0—0.4
Low	71—105	21—30	41—60	21—30	4.0—6.0	1.1—2.0	0.5—0.8
Very low	106—140	31—40	61—80	31—40	7.0—9.0	2.1—3.0	0.9—1.2

**Table 2: Moderate Yield Goal (Yield:  $1.2 \pm 0.1$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Mg	Zn	B
Optimum	0—28	0—7	0—14	0—7	—	—	—
Medium	23—56	8—14	15—28	8—14	0.0—2.0	0.0—0.7	0—0.3
Low	57—84	15—21	29—42	15—21	2.1—4.0	0.8—1.4	0.4—0.6
Very low	85—112	22—28	43—56	22—28	5.0—6.0	1.5—2.1	0.7—0.9

**Notes: For All Yield Goals**

- a) Half nitrogen and all the phosphorus, potassium, sulphur, magnesium, zinc and boron should be applied as broadcast and incorporated during final land preparation.
- b) Remaining nitrogen should be applied as top dressing at 20-25 DAS and 40-45 DAS (before flower initiation stage) followed by irrigation.

## GROUNDNUT

**(Var: Jhinga Badam, Maichar Badam, Tridana Badam(DM-1), Basanti Badam, BARI Chinabadam-5 and BARI cinabadam-6, BINA cinabadam-1, BINA chinabadam-2 and BINA cinabadam-3)**

**Table 1: High Yield Goal (Yield:  $2.5 \pm 0.3$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Zn	B	Mo
Optimum	0—15	0—12	0—25	0—10	—	—	—
Medium	16—30	13—24	26—50	11—20	0—1.0	0—0.5	0—0.3
Low	31—45	25—36	51—75	21—30	1.1—2.0	0.6—1.0	0.4—0.6
Very low	46—60	37—48	76—100	31—40	2.1—3.0	1.1—1.5	0.7—0.9

**Table 2: Moderate Yield Goal (Yield:  $2.0 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Zn	B	Mo
Optimum	0—11	0—10	0—18	0—7	—	—	—
Medium	12—22	11—20	19—36	8—14	0—0.7	0.0—0.3	0.0—0.20
Low	23—33	21—30	37—54	15—21	0.8—1.4	0.4—0.6	0.21—0.40
Very low	34—44	31—40	55—72	22—28	1.5—2.1	0.7—0.9	0.41—0.60

### Notes: For All Yield Goals

- a) Half nitrogen and all the phosphorus, potassium, sulphur, magnesium, zinc and boron should be applied as broadcast and incorporated during final land preparation.
- b) Remaining nitrogen should be applied as top dressing at flowering stage and covered by soil followed by irrigation.
- c) Inoculum (70 gm for 1 kg seed) must be used when available and in that case N fertilizer should not be used
- d) In case of rainfed, all fertilizers should be applied as basal prior to seeding.

## SOYBEAN

( Var: Sohagh, BARI Soybean-4 and BARI Soybean-5 )

**Table 1: High Yield Goal (Yield:  $2.0 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Zn	B	Mo
Optimum	0—8	0—10	0—20	0—5	—	—	—
Medium	9—16	11—20	21—40	6—10	0—1.0	0.0—0.4	0.0—0.3
Low	17—24	21—30	11—60	11—15	1.0—2.0	0.5—0.8	0.4—0.6
Very low	25—32	31—40	61—80	16—20	2.0—3.0	0.9—1.2	0.7—0.9

**Table 2: Moderate Yield Goal ( Yield:  $1.6 \pm 0.16$ t/ha )**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						
	N	P	K	S	Zn	B	Mo
Optimum	0—6	0—8	0—15	0—4	—	—	—
Medium	7—12	9—16	16—30	5—8	0—0.7	0—0.3	0—0.2
Low	13—18	17—24	31—45	9—12	0.8—1.4	0.4—0.5	0.3—0.4
Very low	19—24	25—32	46—60	13—16	1.5—2.1	0.6—0.9	0.5—0.6

### Notes: For All Yield Goals

- a) All fertilizers should be applied as broadcast and thoroughly mixed with the soil prior to sowing
- b) Inoculum (65-75 gm for 1 kg seed) must be used for soybean cultivation and in that case N fertilizer should not be used

**LINSEED**  
**(Var: Neela)**

**Table 1: Average Yield Goal (Yield:  $1.0 \pm 0.1$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)			
	N	P	K	S
Optimum	0—15	0—5	0—8	0—3
Medium	16—30	6—10	9—16	4—6
Low	31—45	11—15	17—24	7—9
Very low	46—60	16—20	25—32	10—12

**Notes:**

- a) Half nitrogen and all the phosphorus, potassium, sulphur should be applied as broadcast and incorporated during final land preparation.
- b) Remaining half nitrogen should be applied at the time of flower initiation (20 days after seeding) as top dressing followed by irrigation (if moisture is insufficient).
- c) In case of rainfed, all fertilizers should be applied as basal prior to seeding.

## SAFFLOWER

( Var: BARI Saf—1 )

**Table 1. Average Yield Goal (Yield:  $1.5 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)			
	N	P	K	S
Optimum	0—16	0—6	0—8	0—3
<b>Medium</b>	17—32	7—12	9—16	4—6
Low	33—48	13—18	17—24	7—9
Very low	49—64	19—24	25—32	10—12

### Notes:

- One half of nitrogen, and all phosphorus, potassium and sulphur should be broadcast and incorporated during final land preparation.
- Remaining nitrogen should be applied as top dressing at 25-30 day after seeding followed by irrigation (if moisture is insufficient).
- In case of rainfed, all fertilizers should be applied at the time of final land preparation .

## NIGER (Kusum Ful)

(Var: Shova)

**Table 1. Average Yield Goal (Yield:  $1.5 \pm 0.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)			
	N	P	K	S
Optimum	0—15	0—5	0—8	0—3
<b>Medium</b>	16—30	6—10	9—16	4—6
Low	31—45	11—15	17—24	7—9
Very low	46—60	16—20	25—32	10—12

### Notes:

- One half of nitrogen, and all phosphorus, potassium and sulphur should be broadcast and incorporated during final land preparation.
- Remaining nitrogen should be applied as top dressing at 3-4 weeks after seeding followed by irrigation (if moisture is insufficient).
- In case of rainfed, all fertilizer should be applied at the time of final land preparation.

## ROOT AND TUBER CROPS

### POTATO

( Var: Heera, Ailsha, Diamont, Cardinal, BARI Alu-11, BARI Alu-12, BARI Alu-13, BARI Alu-15, BARI Alu-16, BARI Alu-17, BARI Alu-18, BARI Alu-19 and BARI Alu-20)

**Table 1: High Yield Goal (Yield: 30 ± 3 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)							CD/OM (t/ha)
	N	P	K	S	Mg	Zn	B	
Optimum	0—45	0—10	0—45	0—5	—	—	—	—
Medium	46—90	11—20	46—90	6—10	0—5	0—2.0	0.0—0.4	2
Low	91—135	21—30	91—135	11—15	6—10	3.0—4.0	0.5—0.8	4
Very low	136—180	31—40	136—180	16—20	11—15	5.0—6.0	0.9—1.2	6

**Table 2: Moderate Yield Goal ( Yield: 25 ± 2.5 t/ha )**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)							CD/OM (t/ha)
	N	P	K	S	Mg	Zn	B	
Optimum	0—32	0—8	0—32	0—4	—	—	—	—
Medium	33—64	9—16	33—64	5—8	0—4	0.0—1.5	0.0—0.3	2
Low	65—96	17—24	65—96	9—12	5—8	1.6—3.0	0.4—0.6	3
Very low	97—128	25—32	97—128	13—16	9—12	3.1—4.5	0.7—0.9	4

**Notes: For All Yield Goals**

- a) All cowdung phosphorus, sulphur, magnesium zinc and boron and half of nitrogen and potassium should be applied before planting and mixed with soil.
- b) Remaining nitrogen and potassium should be applied at the side of the row and covered with soil about 30-35 DAP at the time of earthing up followed by irrigation.

## SWEET POTATO

( Var: Tripti, Kamala Shunduri, BARI Mistialu-3 (Daulatpuri), BARI Mistialu-4 and BARI Mistialu-5 )

**Table 1: High Yield Goal (Yield: 40.0 ± 4.0 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)							CD/OM (t/ha)
	N	P	K	S	Mg	Zn	B	
Optimum	0—35	0—15	0—35	0—5	—	—	—	—
Medium	36—70	16—30	36—70	6—10	0—4	0.0—1.0	0.0—0.4	2
Low	71—105	31—45	71—105	11—15	5—8	1.1—2.0	0.5—0.8	4
Very low	106—140	46—60	106—140	16—20	9—12	2.1—3.0	0.9—1.2	6

**Table 2: Moderate Yield Goal (Yield: 30.0 ± 3.0 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)							CD/OM (t/ha)
	N	P	K	S	Mg	Zn	B	
Optimum	0—25	0—12	0—25	0—4	—	—	—	—
Medium	26—50	13—24	26—50	5—8	0—3	0.0—0.7	0.0—0.3	2
Low	51—75	25—36	51—75	9—12	4—6	0.71—1.4	0.4—0.6	3
Very low	76—100	37—48	76—100	13—16	7—9	1.41—2.1	0.7—0.9	4

### Notes: For All Yield Goals

- a) All cowdung, phosphorus, potassium, sulphur, magnesium, zinc and boron and half of nitrogen should be applied before planting and mixed with soil.
- b) Remaining nitrogen should be applied at the side of the row and covered with soil about 30-35 DAT at the time of earthing up followed by irrigation.
- c) In case of rainfed, all fertilizers should be applied at the time of final land preparation.

**AROIDS**  
**MUKHI KACHU**  
**(Var: Bilashi & others)**

**Table 1: Average Yield Goal (Yield: 30 ± 3 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				CD/OM (t/ha)
	N	P	K	S	
Optimum	0—32	0—9	0—27	0—6	—
Medium	33—64	10—18	28—54	7—12	2.0
Low	65—96	19—27	55—81	13—18	3.0
Very low	97—128	28—36	82—108	19—24	4.0

**Note:**

- a) All cowdung, phosphorus, potassium, sulphur and organic manure should be applied prior to seeding.
- b) Nitrogen should be side dressed in two equal installments at 15-20 and 40-45 days after germination.

**PANI KACHU**  
(Var: Latiraj & others)

**Table 1: Average Yield Goal (Yield:  $30 \pm 3$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				CD/OM (t/ha)
	N	P	K	S	
Optimum	0—32	0—9	0—27	0—6	—
Medium	33—64	10—18	28—54	7—12	2.0
Low	65—96	19—27	55—81	13—18	3.0
Very low	97—128	28—36	82—108	19—24	4.0

**Note:**

- a) All cowdung, phosphorus, potassium, sulphur and organic manure should be applied prior to seeding.
- b) Nitrogen should be side dressed in two equal installments at 30 and 60 days after planting (DAP).

## VEGETABLE CROPS

### CABBAGE

(Var: K-K Cross, Atlas-70, and Hybrids)

**Table 1: High Yield Goal (Yield: 100.0 ± 10.0 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)							CD/OM (t/ha)
	N	P	K	S	Zn	B	Mo	
Optimum	0—60	0—35	0—20	0—10	—	—	—	—
Medium	61—120	36—70	21—40	11—20	1.0—2.0	0—0.4	0—0.3	4
Low	121—180	71—105	41—60	27—30	3.0—4.0	0.5—0.8	0.4—0.6	6
Very low	181—240	106—140	61—80	31—40	5.0—6.0	0.9—1.2	0.7—1.0	8

**Table 2: Moderate Yield Goal (Yield: 80.0 ± 8.0 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)							CD/OM (t/ha)
	N	P	K	S	Zn	B	Mo	
Optimum	0—42	0—25	0—14	0—8	—	—	—	—
Medium	43—84	26—50	15—28	9—16	1.0—2.0	0—0.3	0—0.2	3
Low	85—126	51—75	29—42	17—24	2.1—3.0	0.4—0.6	0.3—0.4	4
Very low	127—168	76—100	43—56	25—32	3.1—4.0	0.7—0.9	0.5—0.7	5

#### Notes: For All Yield Goals

- a) All cowdung and full phosphorus, sulphur, zinc, boron and molybdenum should be broadcast and incorporated during final land preparation
- b) Nitrogen and potassium should be applied in two equal installments at 15 and 35 days after transplanting as ring method around the plants followed by irrigation (depending on soil moisture).
- c) Urea Supper Granules (USG) (instead of urea) should be applied 9-10 cm apart from base of plant and 7-8 cm deep as ring method. However, attention should be given so that plant base is not disturbed (where USG is placed)

## CABBAGE

(Var: BARI Badhacopy-1 (Provati), BARI Badhacopy-2 (Agradutt and IPSA Cabbage))

**Table 1: High Yield Goal (Yield: 55.0 ± 5.5 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)							CD/OM (t/ha)
	N	P	K	S	Zn	B	Mo	
Optimum	0—40	0—15	0—20	0—6	0.0—1.0	—	—	—
Medium	41—80	16—30	21—40	7—12	1.1—2.0	0—0.4	0—0.3	4
Low	81—120	31—45	41—60	13—18	2.1—3.0	0.5—0.8	0.4—0.6	6
Very low	121—160	46—60	61—80	18—24	3.1—4.0	0.9—1.2	0.7—1.0	8

**Table 2: Moderate Yield Goal (Yield: 44.0 ± 4.4 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)							CD/OM (t/ha)
	N	P	K	S	Zn	B	Mo	
Optimum	0—30	0—12	0—16	0—4	0.0—0.8	—	—	—
Medium	31—60	13—24	17—32	5—8	0.81—1.6	0—0.3	0—0.2	3
Low	61—90	25—36	33—48	9—12	1.61—2.4	0.4—0.6	0.3—0.4	4
Very low	91—120	37—48	49—64	13—16	2.41—3.2	0.7—0.9	0.5—0.7	5

### Notes: For All Yield Goals

- a) All cowdung and full phosphorus, sulphur, zinc, boron and molybdenum should be broadcast and incorporated during final land preparation
- b) Nitrogen and potassium should be applied in two equal installments at 15 and 35 days after transplanting as ring method around the plants followed by irrigation (depending on soil moisture).

- c) Urea Supper Granules (USG) (instead of urea) should be applied 9-10 cm apart from base of plant and 7-8 cm deep as ring method. However, attention should be given so that plant base is not disturbed (where USG is placed)

**CAULIFLOWER**  
(Var: BARI Fulcopy-1 (Rupa) & others)

**Table 1: High Yield Goal (Yield: 35.0 ± 3.5 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)							CD/OM (t/ha)
	N	P	K	S	Zn	B	Mo	
Optimum	0—40	0—20	0—40	0—8	—	—	—	-
Medium	41—80	21—40	41—80	9—16	1.0—2.0	0.0—0.6	0.0—0.3	4
Low	81—120	41—60	81—120	17—24	2.1—3.0	0.7—0.8	0.4—0.6	6
Very low	121—160	61—80	121—160	25—32	3.1—4.0	0.9—1.0	0.7—0.9	8

**Table 2. Moderate Yield Goal (Yield: 28.0 ± 2.8 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)							CD/OM (t/ha)
	N	P	K	S	Zn	B	Mo	
Optimum	0—28	0—15	0—30	0—5	—	—	—	-
Medium	29—56	16—30	31—60	6—10	0—1.0	0.7—1.4	0.0—0.2	2
Low	57—84	31—45	61—90	11—15	1.1—2.0	1.5—0.6	0.3—0.4	4
Very low	85—112	46—60	91—120	16—20	2.1—3.0	0.7—0.8	0.4—0.6	6

**Notes: For All Yield Goals**

- a) Half of cowdung and full of phosphorus, sulphur, zinc, boron and molybdenum should be broadcast and incorporated during final land preparation.
- b) Remaining cowdung should be applied in pits prior to planting.

- c) Nitrogen and potassium should be applied in three installments at 10-15, 30 and 50 days after transplanting as ring method around the plants followed by irrigation (depending of soil moisture).
- d) Urea Supper Granules (USG)(instead of urea) should be applied 9-10 cm apart from base of plant and 7-8 cm deep as ring method However, attention should be given so that plant base is not disturbed (where USG is placed)

## TOMATO

**(Var: Manik, Ratan, BARI Tomato-3, BARI Tomato-4, BARI Tomato-5, BARI Tomato-6, BARI Tomato-7, BARI Tomato-8, BARI Tomato-9, BARI Tomato-10, Bina tomato-2 and Bina tomato-3 & others)**

**Table 1: High Yield Goal (Yield: 80.0 ± 8.0 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						CD/OM (t/ha)
	N	P	K	S	Zn	B	
Optimum	0—40	0—12	0—25	0—5	—	—	-
Medium	41—80	13—24	26—50	6—10	0.0—1.0	0.0—0.3	3
Low	81—120	25—36	51—75	11—15	1.1—2.0	0.31—0.6	4
Very low	121—160	37—48	76—100	16—20	2.1—3.0	0.61—4.0	5

**Table 2: Moderate Yield Goal ( Yield: 64.0 ± 6.4 t/ha )**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						CD/OM (t/ha)
	N	P	K	S	Zn	B	
Optimum	0—28	0—10	0—18	0—4	—	—	-
Medium	29—50	11—20	19—36	5—8	0.0—0.7	0.0—0.2	3
Low	51—84	21—30	37—54	9—12	0.8-1.4	0.21—0.4	4
Very low	85—112	31—40	55—72	13—16	1.5—2.0	0.41—0.7	5

**Notes: For All Yield Goals**

- a) Half of cowdung and full phosphorus, sulphur, zinc, boron and molybdenum should be broadcast and incorporated during final land preparation.
- b) Remaining cowdung should be applied in pits prior to planting.
- c) Nitrogen and potassium should be applied in two equal installments at 15 and 35 days after transplanting as ring method around the plants followed by irrigation (depending on soil moisture).

**BRINJAL**  
**( Var: Uttara, Tarapuri, Kajla and BARI Begun-5 (Nayan Tara )**

**Table 1: High Yield Goal (Yield: 65.0 ± 5.0 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						CD/OM (t/ha)
	N	P	K	S	Zn	B	
Optimum	0—40	0—12	0—30	0—5	—	—	-
Medium	41—80	13—24	31—60	6—10	0.0—1.0	0.0—0.3	4
Low	81—120	25—36	61—90	11—15	1.1—2.0	0.4—0.6	6
Very low	121—160	37—48	91—120	16—20	2.1—3.0	0.7—0.9	8

**Table 2: Moderate Yield Goal (Yield: 52.0 ± 5.2 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						CD/OM (t/ha)
	N	P	K	S	Zn	B	
Optimum	0—28	0—9	0—20	0—4	—	—	2
Medium	29—56	10—18	21—40	5—8	0.0—0.7	0.0-0.2	3
Low	57—84	19—27	41—60	9—12	0.8—1.4	0.21-0.4	4
Very low	85—112	28—36	61—80	13—16	1.5—2.0	0.41-0.6	5

**Notes: For All Yield Goals:**

- a) Half of cowdung should be applied at the time of final land preparation.
- b) Remaining cowdung and full phosphorus, sulphur, zinc and boron should be applied in pit before one week of transplanting.
- c) Nitrogen and potassium should be applied in three equal doses at 21, 35 and 50 DAT around the plants followed by irrigation (10-15 days interval during dry season).
- d) Urea Super Granules (USG) (instead of urea) should be applied 9-10 cm apart from base of plant and 7-8 cm deep as ring method However, attention should be given so that plant base is not disturbed (where USG is placed)

**CHINA SHAK (BATISAK)**  
( Var. BARI Batisak and BARI China Copy-1 )

**Table 1: High Yield Goal (Yield: 30 ± 3 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				OM (t/ha)
	N	P	K	S	
Optimum	0—50	0—10	0—30	0—8	—
Medium	51—100	11—20	31—60	9—16	4
Low	101—150	21—30	61—90	17—24	6
Very low	151—200	31—40	91—120	25—32	8

**Table 2: Moderate Yield Goal (Yield: 24 ± 2.4 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				OM (t/ha)
	N	P	K	S	
Optimum	0—35	0—7	0—21	0—6	—
Medium	36—70	8—14	22—42	7—12	3
Low	71—105	15—21	43—63	13—18	4
Very low	106—140	22—28	64—84	19—24	5

Notes: For All Yield Goals

- a) All cowdung/compost, phosphorus, sulphur, one half of nitrogen and potassium should be broadcast and incorporated during final land preparation.
- b) Remaining nitrogen and potassium should be applied at 20 days after seeding followed by irrigation.

### Chinees Cabbage (Var. BARI Chinees Copi-1)

**Table 1: Average Yield Goal (Yield:  $25 \pm 3$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				CD/OM (t/ha)
	N	P	K	S	
Optimum	0—53	0—17	0—48	0—8	—
Medium	54—106	18—34	94—96	9—16	4
Low	107—159	35—51	97—144	17—24	6
Very low	160—212	52—68	145—192	25—32	8

**Notes:**

- a) All cowdung/compost, phosphorus, sulphur and one half of nitrogenpotassium should be broadcast and incorporated during final land preparation.
- b) Remaining nitrogen and potassium should be applied at 20 days after seeding followed by irrigation.

**BROCCOLI**  
**(All Varieties)**

**Table 1: High Yield Goal (Yield: 25.0 ± 3.0 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)							CD/OM (t/ha)
	N	P	K	S	Zn	B	Mo	
Optimum	0—35	0—12	0—20	0—6	—	—	—	—
Medium	36—70	13—24	21—40	7—12	0—1.0	0.0— 0.6	0.0— 0.2	4
Low	71—105	25—36	41—60	13— 18	1.1— 2.0	0.7— 1.2	0.3— 0.4	6
Very low	106— 140	37—48	61—80	19— 24	2.1— 3.0	1.3— 1.8	0.5— 0.6	8

**Notes:**

- a) Half of cowdung and full dose of phosphorus, sulphur, zinc, boron and molybdenum should be broadcast and incorporated during final land preparation.
- b) Remaining cowdung should be applied in pits prior to planting.
- c) Nitrogen and potassium should be applied in two equal installments at 15 and 35 days after transplanting as ring method around the plants followed by irrigation.

**ASH GOURD**  
(Var. IPSA Ash gourd-1 & others)

**Table 1: High Yield Goal (Yield: 40 ± 4.0 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)							CD/OM (t/ha)
	N	P	K	S	Zn	B	Mo	
Optimum	0—35	0—12	0—20	0—6	—	—	—	—
Medium	36—70	13—24	21—40	7—12	0—1.0	0—0.6	0—0.2	4
Low	71—105	25—36	41—60	13—18	1.1—2.0	0.7—1.2	0.3—0.4	6
Very low	106—140	37—48	61—80	19—24	2.1—3.0	1.3—1.8	0.5—0.6	8

Notes:

- a) All cowdung, phosphorus, potassium, sulphur, boron, zinc and molybdenum should be broadcast and incorporated during final land preparation.
- b) Nitrogen should apply as side dressing at 4-5 DAT and 21 DAT followed by irrigation (if moisture is insufficient).

**LADY'S FINGER. (OKRA)**  
**( Var: BARI Dherosh-1 & others)**

**Table 1: High Yield Goal (Yield: 16.0 ± 1.6 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						CD/OM (t/ha)
	N	P	K	S	Zn	B	
Optimum	0—30	0—10	0—20	0—5	—	—	—
Medium	31—60	11—20	21—40	6—10	0.0—1.0	0.0—0.6	2
Low	61—90	21—30	41—60	11—15	1.1—2.0	0.7—1.2	4
Very low	91—120	31—40	61—80	16—20	2.1—3.0	1.3—1.8	6

**Table 2: Moderate Yield Goal ( Yield: 12.0 ± 1.2 t/ha )**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						CD/OM (t/ha)
	N	P	K	S	Zn	B	
Optimum	0—21	0—8	0—15	0—4	—	—	—
Medium	22—42	9—16	16—30	5—8	0.0—0.7	0.0—0.4	2
Low	43—63	17—24	31—45	9—12	0.8—1.4	0.5—0.8	4
Very low	64—84	25—32	46—60	13—16	1.5—2.1	0.9—1.2	6

**Notes: For All Yield Goals**

- a) Cowdung, half of nitrogen and all phosphorus, potassium, sulphur, zinc and boron should be applied at the time of land preparation.
- b) Remaining nitrogen should be applied around the plant and incorporated with soil at 3<sup>rd</sup> and 5<sup>th</sup> week after sowing followed by irrigation (if moisture is insufficient).

**RADISH**  
**(BARI Mula-1 (Tasakistan Mula), BARI Mula-2(Pinky) and BARI Mula (Druti))**

**Table 1: High Yield Goal (Yield: 60.0 ± 6.0 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)					CD/OM (t/ha)
	N	P	K	S	Zn	
Optimum	0—50	0—15	0—40	0—8	—	—
Medium	51—100	16—30	41—80	9—16	0—2.0	4
Low	101—150	31—45	81—120	17—24	2.1—3.0	6
Very low	151—200	46—60	121—160	25—32	3.1—4.0	8

**Table 2: Moderate Yield Goal (Yield: 48.0 ± 4.8 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)					CD/OM (t/ha)
	N	P	K	S	Zn	
Optimum	0—35	0—12	0—35	0—6	—	—
Medium	36—70	13—24	36—70	7—12	0.0—1.5	2
Low	71—105	25—36	71—105	13—18	1.6—2.0	4
Very low	106—140	37—48	106—140	19—24	2.1—2.5	6

**Notes: For All Yield Goals**

- a) All cowdung, phosphours, potassium, sulphur, zinc and one third of nitrogen should be applied and incorporated during final land preparation.
- b) Remaining nitrogen should be side dressed in two equal installments at 15 and 30 DAS followed by irrigation.

**COUNTRY BEAN/SHIM**  
( Var. BARI Shim-1, BARI Shim-2, IPSA Shim-2 & others)

**Table 1: High Yield Goal (Yield: 25.0 ± 2.5 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)					CD/OM (t/ha)
	N	P	K	S	Zn	
Optimum	0—25	0—10	0—15	0—3	—	—
Medium	26—50	11—20	16—30	4—6	0.0—1.0	4
Low	51—75	21—30	31—45	7—9	1.1—2.0	6
Very low	76—100	31—40	46—60	10—12	2.1—3.0	8

**Notes:**

- a) All cowdung, phosphorus, potassium, sulphur and zinc should be applied and incorporated during final land preparation.
- b) Nitrogen should be applied in 2 splits at 7 DBP and 30 DAT followed by irrigation.

**FIELD PEA**  
( Var: BARI Motorshuti-1, BARI Motorshuti-2, BARI Motorshuti-3 and IPSA Motorshuti -1, IPSA Motorshuti -2 and IPSA Motorshuti -3 )

**Table 1: High Yield Goal (Yield: 15.0 ± 1.5 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)					CD/OM (t/ha)
	N	P	K	S	Zn	
Optimum	0—15	0—7	0—10	0—3	—	—
Medium	16—30	8—14	11—20	4—6	0.0—0.7	4
Low	31—45	15—21	21—30	7—9	0.8—1.4	6
Very low	46—60	22—28	31—40	10—12	1.5—2.0	8

**Notes:**

- a) All fertilizers and cowdung should be applied one week before sowing

**FRENCH BEAN (FARASHI SHIM)**  
**(Var. BARI Jharshim-1 and BARI Jharshim-2)**

**Table 1: High Yield Goal (Yield: 15.0 ± 1.5 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)					CD/OM (t/ha)
	N	P	K	S	Zn	
Optimum	0—30	0—10	0—15	0—3	—	—
Medium	31—60	11—20	16—30	4—6	0.0—1.0	4
Low	61—90	21—30	31—45	7—9	1.0—2.0	6
Very low	91—120	31—40	46—60	10—12	2.1—3.0	8

**Notes:**

- a) All cowdung, phosphours, potassium, sulphur and zinc and half of nitrogen should be applied and incorporated during final land preparation.
- b) Remaining nitrogen should be side dressed at 30 DAS followed by irrigation (if moisture is insufficient).

**SWEET GOURD, BOTTLE GOURD**  
(Var. BARI Lau-1 and other varieties)

**Table 1: High Yield Goal (Yield: 40 ± 4 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (g/pit)						OM (t/ha)
	N	P	K	S	Zn	B	
Optimum	0—20	0—9	0—25	0—6	—	—	0.5
Medium	21—40	10—18	26—50	7—12	0.0—0.7	0.0—0.6	1.0
Low	41—60	19—27	51—75	13—18	0.8—1.4	0.7—1.2	1.5
Very low	61—80	28—36	76—100	19—24	1.5—2.1	1.3—2.0	2.0

**Notes:**

- a) All phosphorus, potassium, sulphur, zinc, boron and organic manure should be applied in pit 5-7 days prior to planting.
- b) Nitrogen should be applied around the plant by side dressing at 30 and 50 days after planting and mixed with soil followed by irrigation

**CUCUMBER**  
(All varieties)

**Table 1: High Yield Goal (Yield: 16 ± 2 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (g/pit)				OM (t/ha)
	N	P	K	S	
Optimum	0—15	0—8	0—16	0—6	2
Medium	16—30	9—16	17—32	7—12	3
Low	31—45	17—24	33—48	13—18	4
Very low	46—60	25—32	49—64	19—24	5

**Notes:**

- a) One half of nitrogen, and all phosphorus, potassium, sulphur and cowdung should be applied in planting hole and thoroughly mixed with the soil.
- b) Remaining nitrogen should be applied between 25-30 days after seeding followed by watering.

**TEASLE GOURD (Kakrol)**  
(All Varieties)

**Table 1: High Yield Goal (Yield: 18 ± 2 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (g/pit)						OM (t/ha)
	N	P	K	S	Zn	B	
Optimum	0—15	0—3	0—14	0—6	—	—	-
Medium	16—30	4—6	15—28	7—12	0.0—1.3	0.0—0.6	2
Low	31—45	7—9	29—42	13—18	1.4—2.6	0.7—1.2	3
Very low	46—60	10—12	43—56	19—24	2.7—4.0	1.3—2.0	4

**Notes:**

- a) All phosphorus, potassium, boron and organic manure should be applied in pit prior 4-5 days to planting.
- b) Nitrogen should be applied in two equal installment at 2 and 4 weeks after germination followed by irrigation.

**BITTER GOURD (Karala)**  
(All varieties)

**Table 1: High Yield Goal (Yield: 25 ± 2.5 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (g/pit)				OM (t/ha)
	N	P	K	S	
Optimum	0-20	0-10	0-10	0-2	-
Medium	21-40	11-20	11-20	3-4	1-1.5
Low	41-60	21-30	21-30	5-6	1.6-2.0
Very low	61-80	31-40	31-40	7-8	2.1-2.5

**Notes:**

- a) All phosphorus, potassium, sulphur, zinc, boron and organic manure should be applied in pit prior 4-5 days to planting.
- b) Nitrogen should be applied in two equal installment at 2 and 4 weeks after germination followed by irrigation (if moisture is insufficient).

**WINGED BEAN/YARDLONG BEAN (Barboti)**  
(All varieties)

**Table 1: Average Yield Goal (Yield: 10 ± 1 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)					
	N	P	K	S	Zn	B
Optimum	0—6	0—9	0—11	0—3	—	—
Medium	7—12	10—18	12—22	4—6	0.0—0.6	0.0—0.6
Low	13—18	19—27	23—33	7—9	0.7—1.2	0.7—1.2
Very low	19—24	28—26	34—44	10—12	1.3—2.0	1.3—2.0

**Notes:**

- a) All fertilizers except nitrogen should be applied and incorporated during final land preparation.
- b) Nitrogen should be applied in two equal installments at 2 and 4 weeks after germination.
- c) Inoculum (50 gm inoculum for 1 kg seed or 4-5 kg/ha) must be used when available and in that case N fertilizer must not be used.

**INDIAN SPINACH (PuiSak)**  
**(Var. BARI PuiSak-1 and other varieties)**

**Table 1: High Yield Goal (Yield:  $40 \pm 4$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				OM (t/ha)
	N	P	K	S	
Optimum	0—30	0—6	0—20	0—5	—
Medium	31—60	7—12	21—40	6—10	4
Low	61—90	13—18	41—60	11—15	6
Very low	91—120	19—24	61—80	16—20	8

**Table 2: Moderate Yield Goal (Yield:  $32 \pm 3.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				OM (t/ha)
	N	P	K	S	
Optimum	0—21	0—4	0—14	0—3	—
Medium	22—42	5—8	15—28	4—6	3
Low	43—63	9—12	29—42	7—9	4.5
Very low	64—84	13—16	43—56	10—12	6

Note:s For All Yield Goals

- a) All cowdung/compost, phosphorus, sulphur, one half of nitrogen and potassium should be broadcast and incorporated during final land preparation.
- b) Remaining nitrogen and potassium should be applied in two equal installments 10 and 25 days after transplanting followed by irrigation (if moisture is insufficient).

**KANGKONG (Gima Kalmi)**  
**(Var: BARI Gima Kalmi -1)**

**Table 1: High Yield Goal (Yield:  $40 \pm 4$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				OM (t/ha)
	N	P	K	S	
Optimum	0—40	0—11	0—17	0—3	—
Medium	41—80	12—22	18—34	4—6	4
Low	81—120	23—33	35—51	7—9	6
Very low	121—160	34—44	52—68	10—12	8

**Table 2: Moderate Yield Goal (Yield:  $32 \pm 3.2$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				OM (t/ha)
	N	P	K	S	
Optimum	0—28	0—8	0—12	0—2	—
Medium	29—56	9—16	13—24	3—4	3
Low	57—84	17—24	25—36	5—6	4.5
Very low	85—112	25—32	37—48	7—8	6

Notes: For All Yield Goals

- a) All cowdung, phosphorus, potassium, sulphur and one third nitrogen should be applied broadcast and incorporated during final land preparation.
- b) The remaining nitrogen should be top dressed after each harvest followed by irrigation (if moisture is insufficient).

**AMARANTHUS**  
(All varieties)

**Table 1: High Yield Goal (Yield:  $30 \pm 3$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				OM (t/ha)
	N	P	K	S	
Optimum	0—39	0—9	0—20	0—2	1.5
Medium	40—78	10—18	21—40	3—4	3
Low	79—117	19—27	41—60	5—6	4.5
Very low	118—156	28—36	61—80	7—8	6

**Table 2: Moderate Yield Goal (Yield:  $24 \pm 2.4$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				OM (t/ha)
	N	P	K	S	
Optimum	0—27	0—6	0—14	0—1.5	1
Medium	28—54	7—12	15—28	1.6—3.0	2
Low	55—81	13—18	29—42	3.1—4.5	3
Very low	82—108	19—24	43—56	4.6—6.0	4

Notes: For All Yield Goals

- a) All cowdung/compost, phosphorus, potassium, sulphur and one half of nitrogen should be broadcast and incorporated during final land preparation.
- b) Remaining nitrogen should be applied in two equal installments 10 and 25 days after sowing/seeding followed by irrigation (if moisture is insufficient).

**RED AMARANTHUS**  
(Var. BARI Lal sak-1 and other varieties)

**Table 1: High Yield Goal (Yield:  $14 \pm 1.4$  t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				CD/OM (t/ha)
	N	P	K	S	
Optimum	0—27	0—6	0—10	0—1.5	1
Medium	28—54	7—12	11—20	1.6—3.0	2
Low	55—81	13—18	21—30	3.1—4.5	3
Very low	82—108	19—24	31—40	4.6—6.0	4

Note: For All Yield Goals

- a) All cowdung/compost, phosphorus, potassium and sulphur and one half of nitrogen should be broadcast and incorporated during final land preparation.
- b) Remaining nitrogen should be applied in one split at 20 DAS followed by irrigation (if moisture is insufficient).

## Pointed Gourd

(All varieties)

Average yield goal (12-14 t/ha)

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)					CD/OM (t/ha)
	N	P	K	S	Zn	
Optimum	0—30	0—6	0—12	—	—	2
Medium	31—60	7—12	13—24	0—3	0—1	4
Low	61—90	13—18	25—36	4—6	1—2	6
Very low	91—120	19—24	36—48	7—9	2—3	9

Note:

- All phosphorus, potassium, sulphur, zinc and organic manure should be applied in pit prior to 4-5 days of planting.
- Nitrogen should be applied in four equal installments at 3, 6, 9 and 12 weeks after planting.

## CARROT

(All varieties)

**Table 1: High Yield Goal (Yield: 20 ± 2 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)				CD/OM (t/ha)
	N	P	K	S	
Optimum	0—40	0—13	0—30	0—8	1.5
Medium	41—80	14—26	31—60	9—16	3.0
Low	81—120	27—39	61—90	17—24	4.5
Very low	121—160	40—52	91—120	25—32	6.0

Notes:

- All cowdung, phosphorus, potassium, sulphur and one third nitrogen should be applied as broadcast and incorporated during final land preparation.
- Remaining nitrogen should be applied in two equal installments at 3 and 5 weeks after sowing/seeding followed by irrigation.

**SPICE CROPS**  
**ONION**  
**( Var: BARI Piyaj-1, BARI Piyaj-2 and Taherpuri )**

**Table 1: High Yield Goal (Yield: 16.0 ± 1.6 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						CD/OM (t/ha)
	N	P	K	S	Zn	B	
Optimum	0—30	0—15	0—40	0—10	—	—	—
Medium	31—60	16—30	41—80	11—20	0—2.0	0—0.7	2
Low	61—90	31—45	81—120	21—30	2.1—3.0	0.71— 1.4	3
Very low	91—120	46—60	121— 160	31—40	3.1—4.0	1.41— 2.0	4

**Notes:**

- a) Half of nitrogen and potassium and all phosphorus, sulphur, zinc and cowdung should be applied at the time of land preparation.
- b) Remaining nitrogen and potash should be applied as top dressing 25 and 50 DAT followed by irrigation.

**SUMMER ONION**  
**(Var. BARI Piyaj-2 and BARI Piyaz-3)**

**Table 1: High Yield Goal (Yield: 12.0 ± 1.2 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)						CD/OM (t/ha)
	N	P	K	S	Zn	B	
Optimum	0-21	0-10	0-20	0-10	-	-	—
Medium	22-42	11-20	21-40	11-20	0-1.4	0.1-0.6	2
Low	43-63	21-30	41-60	21-30	1.5-2.1	0.7-0.8	3
Very low	64-84	31-40	61-80	31-40	2.2-2.8	0.9-1.0	4

**Notes:**

- a) Half of nitrogen and potassium and all phosphorus, sulphur, zinc and cowdung should be applied at the time of land preparation.
- b) Remaining nitrogen and potash should be applied as top dressing 25 and 50 DAT followed by irrigation (if moisture is insufficient).

**GARLIC**  
( All varieties )

**Table 1: High Yield Goal (Yield: 10.0 ± 1.0 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)					CD/OM (t/ha)
	N	P	K	S	Zn	
Optimum	0—30	0—15	0—40	0—10	—	—
Medium	31—60	16—30	41—80	11—20	0—2.0	2
Low	61—90	31—45	81—120	21—30	2.1—3.0	3
Very low	91—120	46—60	121—160	31—40	3.1—4.0	4

**Notes:**

- a) Half of nitrogen and potassium and full of phosphorus, sulphur, zinc and cowdung should be applied at the time of final land preparation.
- b) Remaining nitrogen and potash should be applied as top dressing at the time of first mulching followed by irrigation (if moisture is insufficient).

**GINGER**  
(All varieties)

**Table 1: High Yield Goal (Yield: 15.0 ± 1.5 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)					CD/OM (t/ha)
	N	P	K	S	Zn	
Optimum	0—40	0—15	0—40	0—5	—	—
Medium	41—80	16—30	41—80	6—10	0—2.0	2
Low	81—120	31—45	81—120	11—15	2.1—3.0	3
Very low	121—160	46—60	121—160	16—20	3.1—4.0	4

**Notes:**

- a) Half of nitrogen and all phosphorus, potassium, sulphur, zinc and cowdung should be applied at the time of final land preparation.
- b) Remaining nitrogen should be applied at 6 weeks after growth followed by irrigation.

**TURMERIC**  
(Var. Dimla, Sinduri and BARI Halud-3)

**Table 1: High Yield Goal (Yield: 35.0 ± 3.5 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)					CD/OM (t/ha)
	N	P	K	S	Zn	
Optimum	0—40	0—12	0—35	0—5	—	—
Medium	41—80	13—24	36—70	6—10	0—2.0	2
Low	81—120	25—36	71—105	11—15	2.1—3.0	3
Very low	121—160	37—48	106—140	16—20	3.1—4.0	4

**Notes:**

- a) Half of nitrogen and all phosphorus, potassium, sulphur, zinc & cowdung should be applied at the time of final land preparation.
- b) Remaining nitrogen should be applied at 80 and 110 DAP followed by irrigation (depending on soil moisture).

**CHILLI**  
(Var. BARI Marich-1 & other varieties)

**Table 1: High Yield Goal (Dry Yield: 2.0 ± 0.2 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)					CD/OM (t/ha)
	N	P	K	S	Zn	
Optimum	0—30	0—20	0—30	0—5	—	—
Medium	31—60	21—40	31—60	6—10	0—2.0	2
Low	61—90	41—60	61—90	11—15	2.1—3.0	3
Very low	91—120	61—80	91—120	16—20	3.1—4.0	4

**Notes:**

- a) Half of nitrogen and all phosphorus, potassium, sulphur, zinc & cowdung should be applied at the time of final land preparation.
- b) Remaining nitrogen should be top dressed at 25, 50 & 70 days after planting followed by irrigation (depending on soil moisture).

**CORIANDER**  
**( Var: BARI Dhania-1 )**

**Table 1: High Yield Goal (Yield: 2.0 ± 0.2 t/ha)**

Soil Analysis Interpretation	Fertilizer Recommendation (kg/ha)					CD/OM (t/ha)
	N	P	K	S	Zn	
Optimum	0—30	0—12	0—20	0—5	—	—
Medium	31—60	13—24	21—40	6—10	0—2.0	2
Low	61—90	25—36	41—60	11—15	2.1—3.0	3
Very low	91—120	37—48	61—80	16—20	3.1—4.0	4

**Notes:**

- a) Half of nitrogen and all phosphorus, potassium, sulphur, zinc & cowdung should be applied at the time of final land preparation.
- b) The remaining nitrogen should be applied at 30 DAS followed by irrigation (depending on soil moisture).