



PLANT & TISSUE GUIDELINES - FIELD

Logan Labs, 620 North Main Street, Lakeview, OH 43331
937-842-6100 | www.loganlabs.com

ALFALFA, EARLY GROWTH (TOP 6")

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.8-5.5	B	30-80
P	0.3-0.8	Cu	6-30
K	2.5-5.0	Fe	30-250
Ca	1.0-3.0	Mn	30-150
Mg	0.35-0.5	Zn	20-80
S	0.25-0.6	Mo	1.2-5.0

ALFALFA, BLOOM STAGE (TOP 6")

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.2-5.5	B	30-80
P	0.26-0.7	Cu	8-30
K	2.2-4.0	Fe	31-150
Ca	1.0-3.5	Mn	31-150
Mg	0.35-0.65	Zn	20-80
S	0.2-0.6	Mo	1.0-4.6



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BARLEY, EMERGENCE OF HEAD FROM BOOT (WHOLE TOPS)

Survey Average

Macronutrients	%	Micronutrients	ppm
N	1.75-3.0	B	no data
P	0.2-0.5	Cu	5-25
K	1.5-3.0	Fe	no data
Ca	0.3-1.2	Mn	25-100
Mg	0.15-0.4	Zn	15-70
S	0.15-0.4	Mo	0.11-0.18

CANOLA

Survey Average

Macronutrients	%	Micronutrients	ppm	Nonessential Elements	ppm
N	2.7-3.2	B	15-20	Al	90-150
P	0.34-0.4	Cu	4-12		
K	2.58-3.2	Fe	100-200		
Ca	1.19-1.4	Mn	60-110		
Mg	0.49-0.55	Zn	25-45		
S	0.4-0.5	Mo	no data		



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COSTAL BERMUDA (TOP 4-6" OF PLANT)

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.5-3.0	B	5-15
P	0.23-0.4	Cu	5-20
K	1.8-2.2	Fe	50-200
Ca	0.25-0.5	Mn	20-300
Mg	0.1-0.25	Zn	20-70
S	0.2-0.3	Mo	no data

RICE, MID-TILLERING (WHOLE PLANT)

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.1	B	no data
P	0.24	Cu	no data
K	2.4	Fe	238
Ca	0.3	Mn	772
Mg	0.14	Zn	43
S	0.15	Mo	no data



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RICE, PANICLE DIFFERENTIATION (WHOLE PLANT)

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.9	B	no data
P	0.22	Cu	no data
K	2.0	Fe	120
Ca	0.28	Mn	300
Mg	0.19	Zn	75
S	no data	Mo	no data

SMALL GRAINS, TOP 6" PRIOR TO HEADIN (WHOLE PLANT)

Survey Average

Macronutrients	%	Micronutrients	ppm	Nonessential Elements	ppm
N	2.1-3.0	B	4-20	Al	150
P	0.21-0.43	Cu	5-24		
K	1.5-3.0	Fe	25-100		
Ca	0.2-0.5	Mn	25-100		
Mg	0.15-0.5	Zn	20-80		
S	0.17-0.55	Mo	0.03-5.0		



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SORGHUM, WHOLE PLANT EARLY GRO (WHOLE PLANT)

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.5-4.0	B	3-13
P	0.3-0.6	Cu	8-15
K	3.0-4.5	Fe	160-250
Ca	0.9-1.3	Mn	40-150
Mg	0.35-0.5	Zn	30-60
S	0.18-0.5	Mo	no data

SORGHUM, TOP GROWTH 40-60 D (WHOLE PLANT)

Survey Average

Macronutrients	%	Micronutrients	ppm	Nonessential Elements	ppm
N	3.2-4.2	B	3-10	Al	0-200
P	0.2-0.6	Cu	2.15		
K	2.0-3.0	Fe	55-200		
Ca	0.15-0.9	Mn	8-190		
Mg	0.2-0.5	Zn	15-30		
S	0.15-0.4	Mo	no data		



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SORGHUM, BLOOM STAGE (WHOLE PLANT)

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.3-4.0	B	2-10
P	0.2-0.35	Cu	2-7
K	1.4-1.7	Fe	5-100
Ca	0.3-0.6	Mn	10-190
Mg	0.2-0.5	Zn	15-30
S	0.15-0.4	Mo	no data

SUGAR CANE, BLADES

Survey Average

Macronutrients	%	Micronutrients	ppm
N	1.6-2.8	B	2.35
P	0.15-1.0	Cu	10-100
K	2.3-6.0	Fe	20-600
Ca	0.1-2.0	Mn	20-400
Mg	0.15-1.0	Zn	15-100
S	300-10,000	Mo	0.05-4.0



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SUNFLOWERS

Survey Average

Macronutrients	%	Micronutrients	ppm	Nonessential Elements	ppm
N	3.4-4.0	B	25-40	Al	50-100
P	0.26-0.35	Cu	6-10		
K	2.5-3.2	Fe	60-200		
Ca	1.1-1.5	Mn	50-100		
Mg	0.25-0.25	Zn	20-35		
S	0.37-0.9	Mo	no data		

TOBACCO, TOP MATURE LEAVES

Survey Average

Macronutrients	%	Micronutrients	ppm	Nonessential Elements	ppm
N	3.5-4.25	B	21-100	Al	<200
P	0.27-0.5	Cu	15-50		
K	2.5-3.5	Fe	50-200		
Ca	1.5-3.5	Mn	25-200		
Mg	0.2-0.65	Zn	20-60		
S	0.14-0.4	Mo	0.5-1.1		



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TOBACCO, "MATURE PLANT" LEAVES

Survey Average

Macronutrients	%	Micronutrients	ppm	Nonessential Elements	ppm
N	3.0-5.0	B	20-40	Al	20-200
P	0.25-0.6	Cu	9-30		
K	2.5-5.0	Fe	100-250		
Ca	2.2-4.0	Mn	50-200		
Mg	0.4-0.8	Zn	30-50		
S	0.25-0.8	Mo	no data		

CORN, WHOLE PLANT (20" OR LESS)

Survey Average

Macronutrients	%	Micronutrients	ppm	Nonessential Elements	ppm
N	3.5-5.0	B	6-25	Al	100-200
P	0.3-0.5	Cu	6-20		
K	2.5-4.0	Fe	50-250		
Ca	0.4-1.0	Mn	20-250		
Mg	0.3-0.6	Zn	20-60		
S	0.2-0.5	Mo	no data		



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CORN, EAR LEAF AT SILK

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.8-3.8	B	6-20
P	0.25-0.5	Cu	5-15
K	1.8-3.0	Fe	50-300
Ca	0.25-0.85	Mn	30-200
Mg	0.2-0.3	Zn	19-60
S	0.17-0.3	Mo	no data

SWEET CORN, EAR LEAF SILKING

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.6-3.5	B	15-30
P	0.25-0.49	Cu	10-20
K	1.7-2.8	Fe	no data
Ca	0.75-1.3	Mn	45-100
Mg	0.25-0.5	Zn	12-30
S	no data	Mo	no data



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COTTON, TOP MATURE LEAVES

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.2-4.5	B	20-70
P	0.3-0.55	Cu	6-25
K	1.6-3.0	Fe	50-250
Ca	1.9-3.0	Mn	25-300
Mg	0.3-0.8	Zn	20-100
S	0.2-0.75	Mo	no data

MINT

Survey Average

Macronutrients	%	Micronutrients	ppm	Nonessential Elements	ppm
N	2.8-4.2	B	10-30	Al	20-300
P	0.25-0.37	Cu	6-20		
K	2.4-3.6	Fe	51-350		
Ca	1.0-1.8	Mn	35-80		
Mg	0.24-0.36	Zn	30-50		
S	0.24-0.36	Mo	no data		



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OATS, HEAD EMERGES FROM BOOT (25 WHOLE TOPS)

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.0-3.0	B	no data
P	0.2-0.5	Cu	5-25
K	1.5-3.0	Fe	40-150
Ca	0.2-0.5	Mn	25-100
Mg	0.15-0.5	Zn	15-70
S	0.15-0.4	Mo	0.2-0.3

PEANUTS, UPPER MATURE LEAVES PRIOR TO BLOOM STAGE

Survey Average

Macronutrients	%	Micronutrients	ppm	Nonessential Elements	ppm
N	3.2-4.6	B	20-50	Al	<200
P	0.25-0.5	Cu	6-28		
K	2.7-3.0	Fe	50-300		
Ca	1.25-2.0	Mn	50-350		
Mg	0.3-0.8	Zn	20-50		
S	0.2-0.35	Mo	0.3-2.0		



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SOYBEANS, WHOLE PLANT (SEEDING)

Survey Average

Macronutrients	%	Micronutrients	ppm
N	4.5-5.1	B	20-40
P	0.4-1.0	Cu	8-20
K	2.1-3.8	Fe	60-600
Ca	1.2-2.2	Mn	20-150
Mg	0.4-1.0	Zn	20-50
S	0.25-0.5	Mo	0.3-5.0

SOYBEANS, UPPER LEAVES (EARLY BLOOM) 45-53 DAYS

Survey Average

Macronutrients	%	Micronutrients	ppm
N	4.8-6.2	B	20-80
P	0.3-0.5	Cu	6-15
K	2.0-3.0	Fe	50-350
Ca	0.35-2.0	Mn	20-150
Mg	0.3-0.6	Zn	20-60
S	0.2-0.5	Mo	0.5-5.0



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SOYBEANS, UPPER LEAVES (FRUITING) 65-86 DAYS

Survey Average

Macronutrients	%	Micronutrients	ppm	Nonessential Elements	ppm
N	5.0-6.0	B	20-80	Al	<200
P	0.25-0.45	Cu	6-20		
K	1.6-2.5	Fe	51-200		
Ca	0.8-2.2	Mn	20-100		
Mg	0.3-0.6	Zn	20-60		
S	0.2-0.5	Mo	0.3-0.5		

SOYBEANS, UPPER LEAVES (EARLY GROWTH)

Survey Average

Macronutrients	%	Micronutrients	ppm
N	4.8-6.1	B	20-60
P	0.35-0.5	Cu	8-15
K	2.0-3.0	Fe	50-400
Ca	1.0-1.5	Mn	20-150
Mg	0.4-0.6	Zn	20-60
S	0.2-0.5	Mo	0.3-5.0



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SOYBEANS, UPPER LEAVES (FULL BLOOM)

Survey Average

Macronutrients	%	Micronutrients	ppm
N	5.2-6.2	B	20-70
P	0.3-0.5	Cu	6-15
K	2.0-2.5	Fe	51-300
Ca	0.7-2.0	Mn	20-100
Mg	0.3-0.6	Zn	20-60
S	0.2-0.5	Mo	0.3-5.0

SOYBEANS, UPPER LEAVES (MATURE) 90-103 DAYS

Survey Average

Macronutrients	%	Micronutrients	ppm	Nonessential Elements	ppm
N	3.4-5.5	B	20-80	Al	<200
P	0.1-0.25	Cu	5-20		
K	1.0-2.0	Fe	80-200		
Ca	1.1-2.2	Mn	20-200		
Mg	0.2-0.6	Zn	20-60		
S	0.2-0.5	Mo	0.3-5.0		



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WHEAT, SEEDING STAGE

Survey Average

Macronutrients	%	Micronutrients	ppm	Nonessential Elements	ppm
N	3.0-5.0	B	6-25	Al	0-100
P	0.3-0.8	Cu	5-20		
K	2.0-5.0	Fe	20-200		
Ca	0.2-0.8	Mn	20-150		
Mg	0.15-0.4	Zn	20-50		
S	0.15-0.5	Mo	0.1-2.0		

WHEAT, TOP 6" PRIOR TO HEADING

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.3-3.0	B	5-25
P	0.2-0.4	Cu	5-25
K	1.5-3.0	Fe	25-100
Ca	0.2-0.75	Mn	25-100
Mg	0.1-0.75	Zn	18-50
S	0.11-0.3	Mo	no data



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WHEAT, EARLY GROWTH

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.0-4.0	B	6-40
P	0.25-0.5	Cu	6-50
K	1.8-4.0	Fe	12-300
Ca	0.2-1.0	Mn	17-200
Mg	0.16-1.0	Zn	20-50
S	0.2-0.4	Mo	0.3-0.5