



PLANT & TISSUE GUIDELINES - HORTICULTURAL

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

AFRICAN VIOLET

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.2-2.7	B	30-200
P	0.2-0.9	Cu	5-30
K	1.5-6.0	Fe	70-320
Ca	0.6-1.7	Mn	35-490
Mg	0.6-1.7	Zn	20-80
S	0.7-1.1	Mo	no data

ALSTROMERIA

Survey Average

Macronutrients	%	Micronutrients	ppm
N	308-7.6	B	10-50
P	0.3-0.7	Cu	5-15
K	3.7-4.8	Fe	175-275
Ca	0.6-1.4	Mn	60-90
Mg	0.2-0.4	Zn	35-70
S	no data	Mo	no data



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ANTHURIUM ANDREANUM

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.2	B	55
P	0.16-0.31	Cu	6.0
K	2.7-3.9	Fe	44
Ca	1.0-2.0	Mn	110
Mg	0.24-0.48	Zn	45
S	no data	Mo	no data

AZALEA

Survey Average

Macronutrients	%	Micronutrients	ppm	Nonessential Elements	ppm
N	1.9-2.4	B	33	Al	74
P	0.6-0.5	Cu	10		
K	0.8-1.0	Fe	75		
Ca	0.18-0.30	Mn	55		
Mg	0.15-0.33	Zn	95		
S	no data	Mo	no data		



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CALADIUM

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.6-4.9	B	95-145
P	0.4-0.7	Cu	5-10
K	2.3-4.1	Fe	65-90
Ca	1.1-1.6	Mn	110-135
Mg	0.1-0.3	Zn	125-135
S	no data	Mo	no data

CALLA

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.9-3.0	B	30-40
P	0.3-0.4	Cu	5-10
K	3.9-4.4	Fe	95-130
Ca	0.9-1.1	Mn	635-690
Mg	0.3-0.4	Zn	30-45
S	no data	Mo	no data



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CARNATIONS (YOUNG PLANTS, 4TH & 5TH LEAF PAIRS)

Survey Average

Macronutrients	%	Micronutrients	ppm
N	4.5-6.0	B	25-350
P	0.20-0.45	Cu	5-30
K	2.0-6.0	Fe	30-150
Ca	0.6-2.0	Mn	30-300
Mg	0.15-0.6	Zn	16-76
S	no data	Mo	no data

CARNATIONS ("GREENHOUSE" LEAVES)

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.0-5.0	B	30-40
P	0.20-0.35	Cu	5-30
K	2.0-6.0	Fe	50-150
Ca	1.0-2.0	Mn	50-200
Mg	0.20-0.45	Zn	25-200
S	no data	Mo	no data



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CHRYSANTHEMUM

Survey Average

Macronutrients	%	Micronutrients	ppm
N	4.5-6.0	B	25-200
P	0.23-1.15	Cu	6-25
K	3.5-10.0	Fe	125+
Ca	0.50-4.6	Mn	200+
Mg	0.13-1.5	Zn	10-40
S	no data	Mo	no data

COMMON IMPATIENS

Survey Average

Macronutrients	%	Micronutrients	ppm
N	4.3-5.3	B	45-95
P	0.6-0.8	Cu	10-15
K	2.8-1.8	Fe	405-685
Ca	2.9-3.3	Mn	205-480
Mg	0.6-0.8	Zn	65-70
S	no data	Mo	no data



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CYCLAMEN

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.9-5.0	B	70-350
P	0.4-1.0	Cu	5-20
K	1.2-4.5	Fe	150-550
Ca	0.3-1.3	Mn	100-500
Mg	0.4-1.3	Zn	30-100
S	no data	Mo	no data

DIEFFENBACHIA

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.0-4.0	B	9.9-30.8
P	0.7-1.0	Cu	3.8
K	6.4-8.2	Fe	no data
Ca	1.9-2.4	Mn	82-198
Mg	0.4-0.8	Zn	78-195
S	no data	Mo	no data



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EASTER LILY

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.4-4.0	B	20-50
P	0.1-0.7	Cu	5-25
K	2.0-5.0	Fe	100-250
Ca	0.2-4.0	Mn	50-250
Mg	0.3-2.0	Zn	30-70
S	no data	Mo	no data

EXACUM

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.8-5.3	B	25-60
P	0.3-0.7	Cu	5-75
K	2.3-3.4	Fe	55-155
Ca	0.5-0.8	Mn	70-165
Mg	0.4-0.7	Zn	25-85
S	no data	Mo	no data



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FIGUS BENMGAMINA

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.2	B	20-40
P	0.2	Cu	5-10
K	2.1-2.5	Fe	50
Ca	1.7-2.5	Mn	22-99
Mg	0.3-0.4	Zn	26-52
S	no data	Mo	no data

FRASER FIR

Survey Average

Macronutrients	%	Micronutrients	ppm
N	1.5-2.0	B	18-20
P	0.2+	Cu	5-6
K	0.6+	Fe	40+
Ca	0.6+	Mn	50-60
Mg	.010-0.15	Zn	20-30
S	0.08+	Mo	no data



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FREESIA

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Macronutrients	%	Micronutrients	ppm
N	2.7-5.6	B	30-100
P	0.4-1.2	Cu	5-130
K	3.1-5.9	Fe	80-115
Ca	0.4-1.0	Mn	30-540
Mg	0.3-1.8	Zn	40-110
S	no data	Mo	no data

FUCSIA

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.8-4.6	B	25-35
P	0.4-0.6	Cu	5-10
K	2.2-2.5	Fe	95-335
Ca	1.6-2.4	Mn	75-220
Mg	0.4-0.7	Zn	30-45
S	no data	Mo	no data



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GERANIUM

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.4-4.8	B	30-250
P	0.35-0.67	Cu	8-16
K	0.75-1.2	Fe	160
Ca	0.2-0.52	Mn	45-140
Mg	0.27	Zn	7-25
S	no data	Mo	no data

GERBERA

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.3-4.1	B	25-50
P	0.3-0.7	Cu	5-10
K	3.1-3.9	Fe	80-130
Ca	0.9-4.2	Mn	65-260
Mg	0.3-2.8	Zn	30-80
S	no data	Mo	no data



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GLOXINIA

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.3-3.8	B	30-35
P	0.3-0.5	Cu	5-20
K	4.5-5.0	Fe	70-150
Ca	1.5-2.2	Mn	95-170
Mg	0.4-0.5	Zn	20-35
S	no data	Mo	no data

HEMLOCK

Survey Average

Macronutrients	%	Micronutrients	ppm
N	1.5-2.0	B	18-20
P	0.2+	Cu	5-6
K	0.75+	Fe	50-100
Ca	0.10-0.15	Mn	50-100
Mg	0.08+	Zn	20-30
S	no data	Mo	no data



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HIBISCUS

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.5-4.5	B	20-25
P	0.2-0.6	Cu	5-10
K	2.0-2.9	Fe	60-75
Ca	1.9-2.3	Mn	135-180
Mg	0.5-0.7	Zn	35-50
S	no data	Mo	no data

HOLIDAY CACTUS

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.7-3.7	B	65-70
P	0.5-0.9	Cu	10-15
K	6.2-7.1	Fe	105-110
Ca	0.7-0.9	Mn	35-130
Mg	1.6-2.2	Zn	50-65
S	no data	Mo	no data



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HYDRANGEA

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Macronutrients	%	Micronutrients	ppm
N	2.0-3.8	B	35-50
P	0.3-2.5	Cu	5-10
K	2.5-6.3	Fe	85-115
Ca	0.8-1.5	Mn	100-345
Mg	0.2-0.4	Zn	50-105
S	no data	Mo	no data

IVY GERANIUM

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.4-4.4	B	30-280
P	0.4-0.7	Cu	5-15
K	2.8-4.7	Fe	115-270
Ca	0.9-1.4	Mn	40-174
Mg	0.2-0.6	Zn	10-45
S	no data	Mo	no data



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KALANCHOE

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.5-5.0	B	30-60
P	0.2-0.5	Cu	5-20
K	2.0-4.8	Fe	75-200
Ca	1.1-4.5	Mn	50-250
Mg	0.4-1.0	Zn	25-80
S	no data	Mo	no data

KALMIA

Survey Average

Macronutrients	%	Micronutrients	ppm
N	1.75-2.5	B	2+
P	0.16+	Cu	5-6
K	0.6-1.0	Fe	40+
Ca	0.6-0.8	Mn	50+
Mg	0.2+	Zn	25+
S	0.8+	Mo	0.3+



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NEPHROLEPIS

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Macronutrients	%	Micronutrients	ppm
N	1.7-2.5	B	22-44
P	0.3-0.6	Cu	12
K	2.5-3.9	Fe	49-181
Ca	0.9-1.3	Mn	52-149
Mg	0.6-0.7	Zn	no data
S	no data	Mo	no data

NEW GUINEA IMPATIENS

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.3-4.9	B	50-60
P	0.3-0.8	Cu	5-10
K	1.9-2.7	Fe	160-890
Ca	1.9-2.7	Mn	140-245
Mg	0.3-0.8	Zn	40-85
S	no data	Mo	no data



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PETUNIA

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Macronutrients	%	Micronutrients	ppm
N	2.8-5.8	B	20-55
P	0.5-1.2	Cu	5-45
K	3.5-5.5	Fe	40-700
Ca	0.6-4.8	Mn	90-185
Mg	0.3-1.4	Zn	30-90
S	no data	Mo	no data

POINSETTIA

Survey Average

Macronutrients	%	Micronutrients	ppm	Nonessential Elements	ppm
N	4.0-6.0	B	20-200	Al	91
P	0.2-1.0	Cu	5-15		
K	1.5-5.0	Fe	100-300		
Ca	0.4-2.0	Mn	45-300		
Mg	0.2-1.0	Zn	25-150		
S	no data	Mo	1.0-5.0		



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PRIMULA

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.5-3.3	B	30-35
P	0.4-0.8	Cu	5-10
K	2.1-4.2	Fe	75-155
Ca	0.6-1.0	Mn	50-80
Mg	0.2-0.4	Zn	40-45
S	no data	Mo	no data

REGAL-GERANIUM

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.0-3.2	B	15-45
P	0.3-0.6	Cu	5-10
K	1.1-3.1	Fe	120-225
Ca	1.2-2.6	Mn	115-475
Mg	0.3-0.9	Zn	35-50
S	no data	Mo	no data



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RHODEDENDRON

Survey Average

Macronutrients	%	Micronutrients	ppm
N	1.4-1.75	B	30-50
P	0.2-0.3	Cu	4-6
K	1.0-1.2	Fe	40-80
Ca	0.9-1.2	Mn	50-500
Mg	0.2-0.3	Zn	20-50
S	0.8+	Mo	no data

RIEGER BEGONIA

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.4-4.6	B	35-130
P	0.4-0.8	Cu	5-10
K	2.0-3.5	Fe	80-390
Ca	0.7-2.4	Mn	35-190
Mg	0.3-0.8	Zn	20-30
S	no data	Mo	no data



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ROSES (UPPER LEAVES OF FLOWERING STEM)

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.0-5.0	B	30-60
P	0.2-0.3	Cu	7-15
K	1.8-3.0	Fe	50-150
Ca	1.0-1.9	Mn	30-350
Mg	0.25-0.45	Zn	15-50
S	no data	Mo	no data

RIEGER BEGONIA

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.7-4.8	B	35-60
P	0.3-0.6	Cu	5-15
K	3.3-3.9	Fe	120-340
Ca	1.2-2.1	Mn	110-285
Mg	0.2-0.4	Zn	35-60
S	no data	Mo	no data



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SNAPDRAGON

Survey Average

Macronutrients	%	Micronutrients	ppm
N	4.0-5.3	B	15-40
P	0.2-0.6	Cu	5-15
K	2.2-4.1	Fe	70-135
Ca	0.5-1.4	Mn	60-185
Mg	0.5-1.0	Zn	30-55
S	no data	Mo	no data

SPATHIPHYLLUM

Survey Average

Macronutrients	%	Micronutrients	ppm
N	4.2	B	6.4
P	0.3-0.5	Cu	no data
K	4.7	Fe	no data
Ca	0.8-1.2	Mn	no data
Mg	0.2	Zn	117
S	no data	Mo	no data



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STREPTOCARPUS

Survey Average

Macronutrients	%	Micronutrients	ppm
N	2.0-3.5	B	55-65
P	0.1-0.7	Cu	15-20
K	4.8-5.5	Fe	90-260
Ca	1.2-1.9	Mn	130-300
Mg	0.3-0.5	Zn	85-130
S	no data	Mo	no data

VINCA

Survey Average

Macronutrients	%	Micronutrients	ppm
N	4.9-5.4	B	25-50
P	0.4-0.6	Cu	5-10
K	2.9-3.6	Fe	95-150
Ca	1.4-1.6	Mn	165-300
Mg	0.4-0.5	Zn	40-45
S	no data	Mo	no data



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WAX BEGONIA

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Macronutrients	%	Micronutrients	ppm
N	4.4-5.2	B	30-40
P	0.3-0.4	Cu	10-15
K	3.4-4.2	Fe	100-260
Ca	1.3-2.1	Mn	90-355
Mg	0.6-1.0	Zn	50-65
S	no data	Mo	no data

ZONAL GERANIUM

Survey Average

Macronutrients	%	Micronutrients	ppm
N	3.8-4.4	B	40-50
P	0.3-0.5	Cu	5-15
K	2.6-3.5	Fe	110-580
Ca	1.4-2.0	Mn	270-325
Mg	0.2-0.4	Zn	50-55
S	no data	Mo	no data