

Table 1. Fertilizers used in various trials.

Abbreviation	Product	Guaranteed analysis (N-P2O5-K2O)	Sources of nutrients per label
I. Preplant Incorporated			
NATU	NatureSafe	5-6-6	meat, bone, blood, fish, & hydrolyzed feather meals; langbeinite
MICR	MicroStart60	4-2-3	poultry compost
PAR4	PAR4	9-3-7	feather meal, bone meal, sulfate of potash
MCGR	McGeary Horticultural Fertilizer	5-3-4	Non-Bovine Blood, Soybean, and Steamed Bone Meals; Colloidal Phosphate, Gypsum, Langbeinite; Copper, Zinc, Manganese & Iron Sulfates; Boron, Cocoa Expeller Cake, Compost
SUS5	Sustane	5-2-4	composted turkey litter, hydrolyzed feathermeal, sulfate of potash
SUS8	Sustane	8-2-4	composted turkey litter, hydrolyzed feathermeal, corn gluten meal, sulfate of potash
SSTA	Converted Organics SoilStart	7-1-1	condensed grain fermentation solubles
II. Liquid Feed			
PIN	Pinnacle	3-1-1	Oilseed Extract, Sodium Nitrate
GP	Converted Organics General Purpose 321	2.8-1.5-1.0	condensed grain fermentation solubles
BOM	Bombadier	8-0-0	fermented sugar beet molasses and fermented glucose syrup
ESP	Espartan	2.7-3.03-2.6	concentration of vegetal remains
NK	UConn soluble	10.7-0-2	sodium nitrate, potassium sulfate

Table 2. Main effect means for residual phosphate in saturated media extracts of soilless potting mix cropped with lettuce or tomatoes.

Fertilizer	Phosphate-P					
	Liquid	Lettuce		Tomato		
		mean	std dev	mean	std dev	
Preplant						
CTRL		43.46	1.81	39.9	8.8	
MCGR		41.37	11.16	38.1	9.5	
MICR		50.10	8.46	46.6	6.6	
NATU		43.87	7.94	42.2	6.5	
SSTA		50.45	9.32	48.0	5.4	
SUS5		46.03	13.22	45.9	6.7	
	GP	42.7	10.5	42.7	7.6	
	PIN	49.6	8.6	45.1	7.9	

Analysis of Variance
Effect

Effect	Pr > F	
preplant	0.0512	0.0059
preplant rate	0.0184	0.0861
liquid	0.0094	0.0538
preplant rate * liquid	0.0442	0.0716

Table 2. Effect of preplant and liquid fertilizers on shoot fresh weight of lettuce and mizuna seedlings. Means followed by the same letter are not significantly different based on Tukey's HSD.

A. Combinations

Fertilizer Preplant	Liquid	Shoot fresh weight, g / plant			
		Lettuce		Mizuna	
MCGR	BOM	0.81	tuv	1.09	lmn
MCGR	ESP	2.06	nop	0.86	lmnop
MCGR	GP	3.81	ghi	0.61	opq
MCGR	NK	0.52	uvw	1.20	kl
MCGR	PIN	4.02	efgh	2.49	efgh
MICR	BOM	2.88	jk	2.44	efghi
MICR	ESP	2.86	jk	2.51	efgh
MICR	GP	3.69	hi	1.20	kl
MICR	NK	2.73	jkl	3.52	ab
MICR	PIN	5.41	abc	2.50	efgh
NATU	BOM	2.39	lmn	2.46	efgh
NATU	ESP	2.78	jkl	2.17	hi
NATU	GP	4.17	efg	1.45	jk
NATU	NK	2.53	jklm	3.06	cd
NATU	PIN	5.50	abc	2.58	ef
PAR4	BOM	0.86	tuv	0.88	lmno
PAR4	ESP	2.49	klm	0.57	opq
PAR4	GP	4.22	ef	0.83	mnop
PAR4	NK	0.56	uv	1.08	lmn
PAR4	PIN	5.28	bc	2.51	efgh
SSTA	BOM	2.55	jklm	2.34	fghi
SSTA	ESP	2.71	jkl	2.55	efg
SSTA	GP	3.69	hi	1.17	klm
SSTA	NK	2.77	jkl	3.66	a
SSTA	PIN	5.69	a	2.74	de
SUS8	BOM	1.90	opq	2.09	i
SUS8	ESP	2.74	jkl	2.43	efghi
SUS8	GP	3.89	fgh	1.57	j
SUS8	NK	1.53	qr	2.52	efg
SUS8	PIN	5.58	ab	2.59	ef

B. Main effects of Preplant or Liquid fertilizers

Fertilizer		Shoot fresh weight, g / plant			
Preplant	Liquid	Lettuce		Mizuna	
MCGR		2.24	d	1.25	c
MICR		3.51	a	2.43	ab
NATU		3.47	a	2.34	ab
PAR4		2.68	c	1.17	c
SSTA		3.48	a	2.49	ab
SUS8		3.13	b	2.24	b
	BOM	1.90	d	1.88	b
	ESP	2.61	c	1.85	b
	GP	3.91	b	1.13	c
	NK	1.77	d	2.51	a
	PIN	5.25	a	2.57	a

Table 4. Concentrations of nutrients in preplant saturated media extracts of potting mix used in plant growth trial 2.

	NH4-N		NO3-N		PO4-P	
	mean	std dev	mean	std dev	mean	std dev
	----- mg/L -----					
CTRL	0.85	0.58	nd	-	0.00	0.00
MCGR	5.28	1.33	nd	-	0.75	0.31
MICR	16.60	1.89	12.06	2.54	23.99	3.28
NATU	2.01	0.44	nd	-	2.59	1.41
PAR4	1.59	0.22	nd	-	1.02	0.30
SSTA	15.66	3.19	nd	-	26.94	2.82
SUS8	4.12	1.06	nd	-	11.18	3.24
			Pr>F			
	0.0001		0.0001		0.0001	

Fertilizer	Preplant Liquid	Ammonium-N				Nitrate-N				Phosphate-P			
		Lettuce		Mizuna		Lettuce		Mizuna		Lettuce		Mizuna	
		mean	std dev	mean	std dev	mean	std dev	mean	std dev	mean	std dev	mean	std dev
MCGR	BOM	25.5	21.8	2	1.1	210	3.5	138	26.1	2.0	0.56	1.7	0.63
MCGR	ESP	79.0	3.6	109	0.0	55	34.9	8	5.7	50.7	1.51	35.4	2.45
MCGR	GP	32.4	5.0	22	6.0	54	6.9	54	11.5	61.7	3.13	32.1	3.92
MCGR	NK	0.6	0.5	5	2.0	1	1.4	210	10.6	0.0	0.00	4.8	0.31
MCGR	PIN	2.3	1.8	2	0.3	59	41.1	50	2.3	25.4	0.64	21.0	1.53
MICR	BOM	11.3	5.9	17	1.8	188	24.0	59	11.8	4.7	1.95	6.1	2.01
MICR	ESP	92.7	0.0	91	15.4	12	5.4	11	11.6	41.1	1.66	34.7	4.85
MICR	GP	30.8	4.8	26	4.3	47	24.4	4	6.7	57.2	1.45	45.7	5.63
MICR	NK	11.2	5.2	6	0.9	214	6.6	42	9.8	1.6	1.14	7.5	1.07
MICR	PIN	6.1	1.3	1	0.4	14	10.8	72	20.7	36.9	1.79	33.3	0.78
NATU	BOM	13.2	2.0	17	7.1	214	6.6	77	18.7	7.5	1.49	5.5	0.20
NATU	ESP	82.2	9.1	87	19.7	22	3.8	11	14.0	53.6	6.38	29.9	5.91
NATU	GP	32.6	6.5	36	1.5	33	28.8	3	4.3	58.6	1.89	50.0	0.16
NATU	NK	5.2	0.6	8	1.4	14	1.7	105	56.5	0.8	0.46	5.9	3.46
NATU	PIN	7.7	1.1	1	0.6	9	4.8	71	8.9	33.4	0.78	20.6	1.36
PAR4	BOM	26.5	10.4	4	1.9	208	0.0	154	15.3	1.7	0.73	1.0	0.18
PAR4	ESP	80.6	3.3	91	15.4	41	36.6	40	12.2	53.0	3.23	32.5	3.84
PAR4	GP	31.0	1.8	22	3.6	37	14.3	36	4.0	60.1	1.16	34.5	3.19
PAR4	NK	0.8	0.7	1	0.1	214	6.6	220	0.0	0.0	0.00	0.8	0.55
PAR4	PIN	4.5	0.2	1	0.8	18	9.9	68	15.8	35.3	0.88	22.3	3.83
SSTA	BOM	12.7	10.1	4	1.8	172	67.0	92	30.7	2.8	1.01	4.3	1.08
SSTA	ESP	87.5	9.1	84	23.2	19	4.6	23	28.1	56.4	1.81	38.5	6.08
SSTA	GP	20.9	0.9	19	2.6	43	28.5	33	11.3	60.5	1.48	45.8	8.93
SSTA	NK	3.2	1.4	3	0.9	210	18.7	55	13.4	0.6	0.24	5.9	2.19
SSTA	PIN	6.3	1.1	2	0.8	11	2.6	37	7.5	40.2	0.91	29.8	1.79
SUS8	BOM	4.1	1.2	4	1.9	216	7.6	111	13.9	4.3	1.21	2.3	0.14
SUS8	ESP	83.1	0.0	101	8.5	27	15.3	13	14.0	48.6	2.71	35.5	4.12
SUS8	GP	35.6	8.4	24	5.0	47	2.4	47	14.8	58.3	0.26	48.4	4.30
SUS8	NK	3.5	3.3	4	0.6	9	9.0	124	29.7	0.2	0.27	5.0	2.01
SUS8	PIN	5.9	1.5	1	0.4	21	14.3	59	6.7	35.6	0.57	23.8	3.87

