

**Plant Available Chemical Analysis**

Client Name: SeaAgri, inc.

**Management Description:** Test was designed to determine what happens elementally within a random soil sample when SEA-90 is applied at a rate of 4 lbs per acre and Liquid Fish was applied at a rate of 6 gallons per acre and a combination of 4 lbs SEA-90 and 6 gallons Liquid Fish were applied together.

Sample #	4174	4177	4178	4179	4180	4181	4182	4183	4184		
Sample Id	Base	Control	SEA-90	Liquid Fish	SEA-90+LiqFH	Control	SEA-90	Liquid Fish	SEA-90+LiqFH		
Day #	0	3	3	3	3	7	7	7	7		
<u>Desired Range</u>	<u>Result</u>	<u>Result</u>	<u>Result</u>	<u>Result</u>	<u>Result</u>	<u>Result</u>	<u>Result</u>	<u>Result</u>	<u>Result</u>	<u>Comments</u>	
	<u>lbs/Acre</u>	<u>lbs/Acre</u>	<u>lbs/Acre</u>	<u>lbs/Acre</u>	<u>lbs/Acre</u>	<u>lbs/Acre</u>	<u>lbs/Acre</u>	<u>lbs/Acre</u>	<u>lbs/Acre</u>		
Ammonia Nitrogen	25-68	7.50	8.50	6.50	76.50	61.50	51.50	45.50	28.50	48.00	From Day 0 to Day 14 there is a good steady turnover of Ammonia Nitrogen to Nitrate Nitrogen. However, Sea 90 treatment alone is as good as Liquid Fish or SEA-90 plus Liquid Fish from Day 3 - Day 14 Phosphorus availability did not increase in control or any of the treatments until Day 7 which correlates to the decrease in microbial activity! This is good as plants go through a vegetative and then a maturative stage. Having microbial activity increase and then decrease allows for nutrient turnover. All three treatments had biggest impact in Phosphorus availability which helps in scheduling applications of different products.
Nitrate Nitrogen	11-29	38.00	47.00	51.00	23.00	71.00	30.00	66.00	74.00	76.00	
Phosphorus (P)	35-67	3.70	4.00	3.70	4.40	4.90	115.20	96.96	108.80	102.40	
Phosphorus (P2O5)		8.51	9.20	8.51	10.12	11.27	264.96	223.01	250.20	235.52	
Potassium (K)	82-143	155.00	165.00	150.00	120.00	370.00	300.00	150.00	155.00	210.00	
Potassium (K2O)		186.00	198.00	180.00	144.00	444.00	360.00	180.00	186.00	252.00	
Calcium		3240.48	2662.56	2827.68	2807.04	2935.00	2848.32	2724.48	2727.48	2765.76	
Magnesium		383.90	730.66	730.66	743.04	616.72	421.06	644.00	693.50	668.74	
	<u>ppm</u>	<u>ppm</u>	<u>ppm</u>	<u>ppm</u>	<u>ppm</u>	<u>ppm</u>	<u>ppm</u>	<u>ppm</u>	<u>ppm</u>	<u>ppm</u>	
Copper	3-4	8.50	9.85	6.90	7.45	12.30	10.25	7.85	7.85	6.80	
Ferric Iron	3-5	3.05	3.20	2.85	4.05	3.45	9.15	3.30	8.85	3.40	
Manganese	5-12	2.50	1.40	14.00	40.00	100.00	67.00	46.50	55.50	53.00	
Sulfate	31-50	9.90	9.90	13.20	158.40	161.70	11.00	14.00	149.00	155.00	
Zinc	1-1.2	2.90	0.85	0.90	1.05	1.05	2.00	0.96	1.05	1.05	

To convert lbs/Ac value to ppm divide by 2  
 To convert ppm value to lb/Ac multiply by 2

Sample #	4185	4186	4187	4188
Sample Id	Control	SEA-90	Liquid Fish	SEA-90+LiqFH
Day #	14	14	14	14
<i>Desired Range</i>	<i>Result</i>	<i>Result</i>	<i>Result</i>	<i>Result</i>

	<u>lbs/Acre</u>	<u>lbs/Acre</u>	<u>lbs/Acre</u>	<u>lbs/Acre</u>	<u>lbs/Acre</u>	<u>Comments</u>
Ammonia Nitrogen	25-68	20.50	16.00	21.00	26.00	<p>In agriculture, pushing plant or crop production is all about timing. This means that certain nutrients should be readily available a certain plant growth stages (the demand time). <b>All the treatments (Sea 90, Shaffer and Shaffer +Sea 90) continues to deliver Nitrate from Day 3 to Day 14.</b> This correlates to unusual pattern of Bacterial Activity in which rose slightly or decreased slightly (depending on treatment) in Day 7 but then ended up with a very slight decrease in Day 14. <b>Normally, microbial activity increases substantially and decreases proportionally more with the use of organic or biologically based products.</b></p> <p>The big difference with these products is that Nitrogen is steady but Phosphorus increases in Day 7 and then is maintained or slightly increases (depending on product treatment) in Day 14. Thus during high Nitrogen demanding times (ie vegetative stages), Nitrate is readily available but as the plant becomes mature Phosphorus becomes readily available.</p>
Nitrate Nitrogen	11-29	64.00	74.00	89.00	83.00	
Phosphorus (P)	35-67	124.80	105.60	144.00	124.80	
Phosphorus (P2O5)		287.04	242.88	331.20	287.04	
Potassium (K)	82-143	265.00	210.00	120.00	195.00	
Potassium (K2O)		318.00	252.00	144.00	234.00	
Calcium		3013.44	2807.04	2518.08	2807.04	
Magnesium		222.91	693.50	866.88	693.51	
	<u>ppm</u>	<u>ppm</u>	<u>ppm</u>	<u>ppm</u>	<u>ppm</u>	
Copper	3-4	8.45	5.75	6.05	6.95	
Ferric Iron	3-5	2.95	3.40	2.25	3.10	
Manganese	5-12	55.00	30.00	38.50	25.00	
Sulfate	31-50					
Zinc	1-1.2					

To convert lbs/Ac value to ppm divide by 2

To convert ppm value to lb/Ac multiply by 2