



## CFT SELENIUM VALUABLE TRACE ELEMENT A LIQUID FORM OF SELENIUM

### BACKGROUND

Selenium has long been a well-known and important component of human and animal nutrition. Studies in plant production on various crops have also shown that there are substantial benefits that can be achieved with the application of Selenium. The observed benefits presumably come from Selenium's role in combatting oxidation stress associated with sun damage. Selenium improves the plant's capacity to protect itself against sun damage, which allows it to invest more energy in productive processes, which in return translates into yield increases. These benefits are achieved with relatively low doses per hectare

### BENEFITS

- Extend the plant's virility.
- Reduces oxidation stress which is associated with radiation from the sun
- Increases yields
- Increases plant immunity (according to a European study 10 ppm of Se in the leaves can reduce aphid populations with as much as 50%)
- In combination with Nitrogen, a Selenium application can increase protein and starch in potatoes significantly

### RESEARCH

Selenium applications can have a significant impact on potato yield and quality:

Table 2: Effect of nitrogen fertilizer rates and foliar spray of selenium on vegetative growth and tubers yield of potato plants during two seasons(average of two seasons).

Treatments N (kg/fed)	Se (g /fed)	Plant height (cm)	Number of		Dry shoot yield Ten/fed	Diameter of tuber (cm)	Size of tuber (cm <sup>3</sup> )	Weight of tuber (gm)	Tuber yield Ten/fed
			leaves	shoots					
0	0	48.7	12.3	5.4	0.536	4.4	97	84	6.58
	20	52.8	14.1	6.0	0.569	4.8	110	98	7.11
	40	54.1	14.7	6.7	0.571	4.6	105	101	7.54
150	0	67.3	14.7	7.1	0.748	6.3	153	120	9.11
	20	70.2	16.8	7.9	0.773	7.6	158	130	10.04
	40	75.9	18.2	8.4	0.844	7.3	151	127	9.30
200	0	73.1	17.8	8.9	0.853	6.8	162	135	9.81
	20	88.3	22.0	13.5	0.938	8.7	173	148	11.33
	40	84.0	20.3	11.8	0.863	7.5	161	142	10.74
250	0	70.6	16.0	8.3	0.871	5.7	157	125	9.23
	20	80.4	20.3	9.4	0.989	8.1	165	136	10.57
	40	84.3	18.6	11.1	0.883	7.1	158	130	9.41
LSD 0.05									
N		3.82	2.26	0.99	.031	0.52	5.32	5.55	1.31
Se		3.31	1.96	0.86	0.003	0.45	4.61	4.81	N.S
N x Se		6.61	3.93	1.72	0.05	0.91	9.22	9.61	2.27



With regard to the interaction between foliar spray of selenium (20 and 40g Se fed<sup>-1</sup>) and different rates of nitrogen (0,150,200 and 250 kg fed<sup>-1</sup>), data presented in Table (2) revealed that fertilizers with different nitrogen rates as well as selenium spray at the two levels significantly promoted growth parameters compared with N and/or Se spray alone treatment. Increased yield of Se treated plants suggested that Se may enhance the translocation of photoassimilates for tuber growth, acting as a strong sink for both Se and for carbohydrates. The positive impact of Se on the yield of potato plants could be related to its antioxidative effect in delaying senescence.

## **APPLICATION**

Se is applied as a foliar application at relatively low dosages. Sprays of Se must be done with care as over-application could have a detrimental effect..

There is limited data available in research regarding application rates on various crops. It would therefore be prudent to limit the application of Se to one spray of 20g Se total per hectare (1 Litre of CFT Selenium) Subsequent increases will be dependent on experience with each individual crop.

## **COMPATIBILITY**

CFT Selenium can be applied with a variety of fungicides and insecticides (Such as Brilliant, Metamidiphos, Suprathion, Bravo and Dursban), as well as with CFT Silica. It is incompatible with metals such as Copper and Zink. It is suggested that a jar test be used to test for compatibility before application to test for compatibility.

## **IMPORTANT CONSIDERATIONS**

Concentrated Selenium is regarded as a poison. Although CFT Selenium is a highly diluted solution of Selenium, the product should still be handled carefully and should under no circumstances be ingested or handled without gloves.

## **APPLICATION INSTRUCTIONS**

CFT Selenium is applied as a foliar spray at 1 litre per Ha per application. Enough water should be used to ensure an even coverage on the foliage.

## **STORAGE AND HANDLING**

Store in a cool dry place away from direct sunlight. Ensure that the container is leak free and that the cap is properly closed after use.