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NATIONAL RESEARCH DEVELOPMENT CORPORATION

[An Enterprise of DSIR, Ministry of Science & Technology, Govt. of India]

PERFORMANCE OF POTASSIUM HUMATE ON CROP PRODUCTION

Details of Poly/Greenhouse Experiments conducted by CARD, NLC Ltd, Neyveli

Cost benefit analysis of potassium humate application on certain crops in Poly/Greenhouse test facility.

Capsicum (IAHS–Mahabharat)

Method of application: Foliar spray (0.1 % POTASSIUM HUMATE, 3 times) once in 15 days

POTASSIUM HUMATE consumed: 500 ml: cost: Rs.7.50

Recorded yield: 700 g / plant

For 900 plants: 630 Kgs

Produce value: @Rs.15.00/Kg = Rs.9450.00

Increased yield 30 %: value Rs.2835.00

Cost benefit: Rs.2827.50

Hybrid Tomato (US 1034)

Method of application: Foliar spray (0.1 % POTASSIUM HUMATE, 3 times) once in 15 days

POTASSIUM HUMATE consumed: 500 ml: Cost: Rs.7.50

Recorded yield: 1350 g / plant

For 900 plants: 1215 Kg

Produce value: @ Rs. 6.00/Kg = Rs.7290.00

Increased yield 30 %: value Rs.2187.00

Cost benefit: Rs.2179.50

(N G LAKSHMINARAYAN)

Senior Manager-Business Development

Dated: July 31, 2015

Place: Bengaluru

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PERFORMANCE OF POTASSIUM HUMATE ON CROP PRODUCTION

Field Trials & Result of Application on Various Crops and its Response

CARD, NLC Ltd, Neyveli and Tamil Nadu Agricultural University (TNAU), Coimbatore conducted several trials on various crops and the product is found highly beneficial. Field experiments were conducted to study the influence of Potassium Humate on yield of major food crops, commercial and vegetable crops in different agro climatic zones of Tamil Nadu. For all the crops, the response was studied initially with and without NPK. Based on the results of experiments, the treatments which performed better were selected for test verification trials to derive definite conclusions on the effect of Potassium Humate on various crops.

Tea

The foliar spraying of POTASSIUM HUMATE @ 0.25 to 2.00 was given to tea after every picking. Foliar spraying of POTASSIUM HUMATE @ 0.50% showed marked increase in green leaf yield of tea over higher concentration of POTASSIUM HUMATE and control. Quality parameters of made tea viz., theophyllin, theorubigin, total liquor colour, caffeine, highly polymerized substances, aroma and flavour and polyphenol content of green tea were improved with POTASSIUM HUMATE application.

Pulses

The findings of the experiments on pulses (green gram and black gram) revealed that the grain yield was increased from 107–252 Kg ha⁻¹ by the application of POTASSIUM HUMATE over control. Basal application of 20 Kg ha⁻¹ + 0.1% FS along with 75% NP recorded higher grain yield over 100% NP at all locations. The quality characteristic viz. Protein and methionine content were also improved by the soil application of POTASSIUM HUMATE. Nutrient uptake by crop was well pronounced in treatments receiving soil application of 20 Kg POTASSIUM HUMATE with 100% NP, followed by 75% NP fertilizers. Marked influence on certain economic factors viz. Responses ratio, agronomic efficiency and economic efficiency and benefit cost ratio was observed by the application of POTASSIUM HUMATE.

Tapioca

The imposed treatments exhibited a significant variation in tuber yield of tapioca and it ranged from 22.9 to 32.4 t ha⁻¹. Application of 100% NPK along with soil application of 30Kg ha⁻¹ POTASSIUM HUMATE + sett dipping at 0.5% POTASSIUM HUMATE and foliar spray of 0.5% POTASSIUM HUMATE increased the tuber to the tune of 13.3% over control.

Rice

The findings of the experiments on paddy in different agro-climatic zones showed that the application of Humic acid (POTASSIUM HUMATE) increased the grain to the tune of 950 Kg ha⁻¹ over control. Combined application of POTASSIUM HUMATE through soil + foliar spray + root dipping showed relatively higher yield than application of POTASSIUM HUMATE separately. Adoption of the technology comprising soil application of POTASSIUM HUMATE @ 10 Kg ha⁻¹ + 0.1% foliar spray + 0.3 % root dipping along with 100% NPK produced higher yield of grain and straw. Increasing the level of POTASSIUM HUMATE beyond 20 Kg ha⁻¹ has not produced appreciable increase in yield.

Sugarcane

Basal application: Spray 400 litres of liquid potassium humate (2–4% concentration) per acre directly in soil along the ridges before planting of sugarcane setts. Foliar spray: dilute 1 litre of liquid potassium humate (2-4% concentration) in 30 litres of water and then spray once in a month for up to about 6 months duration. Note: For 1 acre about 7 litres of humic acid is required each time. Fertigation: Add 25 litres of liquid potassium humate (2-4% concentration) per acre through fertigation once in a month until completion of crop duration. Benefits: (a) Increase the cane yield (range 5.4 to 24.7 t/ha.); (b) Growth characteristics viz. Millable canes, single cane weight and number of nodes per cane were favorably influenced by Potassium Humate application and (c) Improved quality characteristics of juices viz. Juice%, brix%, purity% and ccs%.

Banana

Basal application: Spray 100 ml of liquid potassium humate (2-4% concentration) per pit directly to the excavated pit before planting of banana suckers. Foliar spray: Dilute 1 litre of liquid potassium humate (2-4% concentration) in 30 litres of water and then spray once in a month up to flowering stage.



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Senior Manager-Business Development

Dated: July 31, 2015
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