CUSTOMIZED FERTILIZER (For Higher Crop Productivity)

<table>
<thead>
<tr>
<th>Capacity:</th>
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<tbody>
<tr>
<td>Plant and machinery cost:</td>
<td>0.00 Lakh</td>
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<tr>
<td>Working Capital:</td>
<td>0.00 Lakh</td>
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<tr>
<td>Rate of return (ROR):</td>
<td>1.00 %</td>
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<td>Break Even Point (BEP):</td>
<td>0.00 %</td>
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<tr>
<td>TCI:</td>
<td>0.00 Lakh</td>
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<tr>
<td>Cost of Project:</td>
<td>0.00 Lakh</td>
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Fertilizer is an essential key input for production and productivity of crops. Fertilizer alone contributes towards 55% of additional food production. Since there is no scope for extending the cultivable area, more productivity per unit area is the only option and fertilizer is the main cart puller. Custom mixed fertilizer is a mixed fertilizer formulated according to individual specifications furnished by the consumer before mixing. Some land needs much higher quantities of balanced fertilizer mixtures in granulated form, for soil application; water soluble form for drip irrigation, mini sprinkler and foliar spray systems. Customized fertilizer may also be defined as multi-nutrient carrier which contains macro and/or micronutrient, whose sources are from inorganic or organic, which are manufactured through systemic process of granulation and satisfies crop's nutritional demand, specific to area, soil and growth stage of plant. Customized Fertilizers are enriched with both macro and micro nutrients and are manufactured through a systemic process of granulation with stringent quality checks. APPLICATION The objective behind the customized fertilizer is to provide site specific nutrient management for achieving maximum fertilizer use efficiency for the applied nutrient in a cost effective manner. The customized fertilizer may be combination of nutrients, secondary nutrients and micronutrients. Customised Fertilizers are combination of micro nutrients like sulphur, zinc, boron added to the key items such as urea and diammonium phosphate (DAP) and potash, in a proportion that suits specific crops and soil patterns. A fertilizer formulated according to specifications that are furnished by/for a consumer prior to mixing, usually based on the results of soil tests. Customized fertilizers are depends on soil, crop, water and specific nutrients. Customised fertiliser manufacture basically involves mixing and crushing of urea, DAP, MOP, ZnS, bentonite sulphur and boron granules for obtaining the desired proportion of N, P, K, S and micronutrients. The mixture is subjected to steam injection, drying, sieving and cooling, so as to get a uniform product with every grain having the same nutrient composition. The sharp rise in fertilizer prices emphasizes the need for more research to improve the efficiency of fertilizer use. Corporate social obligation to continue to help farmers in India, get higher yields with less fertilizer i.e. by Integrated Soil Fertility Management (ISFM) as a tool to improve the efficiency of fertilizer for increased profitability of small holder farmers of India. CONVERTING ENERGY TO FOOD SECURITY Although the production of fertilizer is energy intensive, the benefits of using energy to enhance food security through fertilizer manufacture and use are enormous. Every 1 million Btu of energy use in the fertilizers sector produces an additional 218 kg of grain enough to provide the minimum calorific intake for one person for a year. Thus, converting energy into food security through fertilizer (customized fertilizer) & associated inputs is probably the worlds (more so for India) most cost effective & human alternative for use of energy resources. By 2020, energy used for fertilizer production & distributions is projected to increase to 8494 trillion Btu. But even then, energy consumed in the fertilizer sector will remain less than 2% of global energy consumption - far less than what people will use driving personal ears. BENEFITS Customized fertilizers is use of the Fertilizers Best Management Practices & are generally assumed to maximize crop yields while minimizing unwanted impacts on the environment & human health. Fertilizer Best Management Practices will make it easier for farmers, extension agents, crop advisers & researchers to exchange their experiences and also to restrict the unwanted nutrient impact on the ecosystem. Application of customized fertilizer is compatible with existing farmers system & hence it will be comfortably accepted by the farmers. Production of customized fertilizers will ensure improved Fertilizer Use Efficiency & creating a new Virtual source of nutrients implying from the existing quantity of DAP, MOP, Urea, SSP & A.S available & consumed in India, the agricultural produce output will increase, simultaneously the distribution & availability of fertilizer will be better. All this is achievable keeping the subsidy allocation constant. Customized fertilizer satisfies crop's nutritional demand, specific to area, soil, and growth stage of plant. As the micronutrients are also added with the granulated NPK
fertilizer the plants can absorb the micronutrient along with macronutrient which prevents nutrient deficiency in plant. Mixed fertilizers with micronutrients provide recommended micronutrient rates for the agricultural field at the usual fertilizer application. The farmer need not buy micronutrient separately at extra cost, thus reducing the total cost. It is found that incorporation of micronutrient with granular fertilizer at the time of manufacturing results in uniform distribution of micronutrient throughout granular NPK fertilizer. This is because micronutrient source is in contact with the mixed fertilizer under the condition of high moisture and temperature. Micronutrient with the mixed fertilizer is one of the most convenient methods of fertilizer application and helps in more uniform distribution of nutrient with conventional application equipments. It is a very unique method developed in agriculture industry and has tremendous scope for future.

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