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Promotion of Growth, Chlorophyll Content and Yield of Rice by a New Drug at Ultra High Dilution

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Original Article

Effects of Ultra High Dilution of Paraquat 30 cH on Growth, Chlorophyll Content and Yield of Rice Crop

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Abstract

The application of synthetic fertilizers reduces the natural fertility of the soil and contaminates groundwater. Some photosynthesis inhibitors at ultra-high dilution (UHD) increase photosynthesis, growth, and yield of crops. A weedicide Paraquat at UHD enhanced the growth and yield of potatoes in fields. The objective is to see whether the UHD of Paraquat is also effective on rice. This weedicide was serially diluted with distilled water and manually succussed in 30 steps following the preparation of homeopathic dilutions called potencies. In this way, the 30th potency of Paraquat called Paraquat 30 cH was prepared and preserved in 90 % ethanol. Paraquat 30 cH was diluted with water 1:1000 (v/v) and sprayed on rice plants in a field measuring 0.3125 acres. The control plot of the same area was situated 300 meters away from the test plot. Three treatments were given at an interval of 7 days. The treated plot showed increased growth, chlorophyll content, and rice yield significantly compared to control. The UHD of the weedicide produced precisely the opposite effect of the crude material on plants. The increased growth and yield of rice by Paraquat 30 cH may be due to the enhancement of photosynthesis of treated plants. The UHD of Paraquat increased the yield of rice by 19.35% over the control.

Keywords: **Weedicide, potentization, field trial, paddy, increased productivity.**

Introduction

In order to boost crop yield, synthetic fertilizers are extensively applied, about 181.9 million Metric tonnes in the world [1]. They affect the quality of soil and its microbial properties [2-3]. They also weaken the shoot and root system of crops and reduce their nutrient value [4]. Ammonium nitrate is used as a synthetic nitrogen fertilizer. It is very much toxic to humans creating malfunction of the liver and kidneys [5]. Here comes the need to find an alternative to these fertilizers. A photosynthesis promoter would be a suitable alternative. We have already observed that some weedicides and drugs at UHD promote photosynthesis and increase about 20% yield of crops [6-9]. We have also observed that Paraquat, a weedicide at UHD, enhances the growth and yield of potatoes [10]. The objective of the present study is to see whether the UHD of Paraquat could enhance the growth and yield of rice.

Rice has been selected because it is a staple food, mainly in Asia, Africa, and Latin America. About 520 million people consume rice in Asia [11]. The three countries, which are the topmost in rice production, are China (148.5 million Metric tonnes), India (116.42 million Metric tonnes), and Indonesia (46.7 million Metric tonnes) [12].

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