

## Enhancement of Nitrite and Nitrate in Tap Water by Cold Atmospheric Plasma

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Nowadays, Fertilizer is very necessary in agriculture cause of soil problem. It has many ways to produce and Cold Atmospheric Plasmas is the one way which has been examined earnestly for along time. It can generate many energetic species of ionized gas in ambient air, especially they can produce reactive nitrogen species (Nitrite  $[\text{NO}]_{-2^-}$ , Nitrate  $[\text{NO}]_{-3^-}$ ) [2-3] which they are essential elements required for prosperous plant growth and biological process including transportation, excretion and absorption [1, 4]. In this experiment, Cold Atmospheric Plasmas that can enhance quantity of nitrite, nitrate in tap water by using the floating electrode, made from tungsten rod and inserted into the Pyrex glass tube and power source is produced by RF power supply of 7 –9 kV and 50 –800 kHz. The Air discharge plasmas, generated above the tap water surface for an hour, enhance quantity of nitrogen species for producing green fertilizer without chemicals and residue.

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