Characteristics of Plasma Activated Water (PAW) Generated from Gliding Arc Discharge (GAD) and Its Applications on Enhancement of Seed Germination of Radish

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In recent decades, generation of plasma activated water (PAW) from non-thermal atmospheric pressure plasma sources has received enormous attention due to their diverse applications. The research described in this paper is mainly focused on the preparation and characterizations of plasma activated water (PAW) produced from gliding arc discharge (GAD) and its use in the enhancement of seed germination of radish. The physical and chemical parameters of the PAW are investigated using multi-parameter probe and UV-visible spectrometer. There were significant differences in physical parameters like pH and conductivity, and chemical parameter like concentration of nitrates, nitrites, ammonia in untreated and plasma treated samples (PAW). But no significant differences in temperature and total dissolved oxygen (TDO) were found. In order to determine the effects of PAW on seed germination, different germination parameters were calculated on radish (*Raphanus sativus*) which indicates that PAW can enhance the seed germination of radish.