



Impact of Repeated Applications of Chemical Fertilizers in Mulberry Cropping System on Ground Water in Sericulture Villages of Tamil Nadu

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Abstract: A study was undertaken to find out the impact of repeated applications of inorganic fertilizers in mulberry cropping system on ground water in potential sericulture clusters of Tamil Nadu. Survey on fertilizers usages indicated that about 35.83 percent of sericulture farmers applying chemical fertilizers as per the recommendations and 26.66 percent of farmers indiscriminately using different types of inorganic fertilizers irrespective of recommendations. The ground water samples collected in the vicinity of the mulberry garden applied repeatedly with chemical fertilizers exhibited higher values of pH (8.96), electrical conductivity (0.423 dSm/m), total dissolved salts (3416 mg/L), nitrate (103.20 mg/L), ammonia (1.95 mg/L), sulphate (198.36 mg/L), phosphate (1.12 mg/L) and potassium (3.25 mg/L) which were found higher than the permissible limit of WHO standards (with the respective values of 7-8.5, 0.250 dSm/m, 500 mg/L, 50 mg/L, 0.5 mg/L, 500 mg/L, 0.10 mg/L and 12 mg/L). The remnants of fertilizers in the ground water were reduced in relation to the reduction in doses of inorganic fertilizers. A holistic approach thus should be made for creating awareness among the sericulture farmers and popularizing organic farming strategies to prevent ground water pollution in mulberry ecosystem due to continuous application of chemical inputs.

Keywords: Mulberry, Chemical fertilizers, Remnants, Ground water, Pollution
