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# Evaluation of ethephon induced oxidative stress to gonadal disorder and its amelioration by ethanolic extract of shoot of *Bambusa balcooa* Roxb. in albino rat

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Ethephon (ETP) is an organophosphorous pesticide widely used in agriculture as a plant growth regulator as it promotes ripening and maturation of fruits and vegetables, respectively. People are exposed to ETP via consumption of artificially ripened and marketed fruits and vegetables which is of great concern to public health hazard. The current study aimed to evaluate the protective effect of *Bambusa balcooa* shoot extract against ethephon induced oxidative stress and gonadal function in albino rats. A total of 60 healthy Swiss Albino rats consisting of 35 males and 25 females were divided into five groups. The rats were subchronically exposed to two doses of ETP, *viz.* 15mg/KG bw and 30 mg/KG bw. ETP toxication significantly decreased weight of the testes and accessory sex organs such as epididymes and vas deferens. It significantly decreased sperm count, sperm motility and sperm viability but significantly increased sperm morphological abnormalities. In female rat, exposure of ETP gradually decreased the duration of proestrus, estrous and metestrous phases of estrous and concomitantly increased the duration of diestrus phase. Administration of *Bambusa balcooa* shoot extract ameliorated these alterations caused by the toxic impacts induced by ETP in albino rats. So, it could be concluded that *Bambusa balcooa* shoot extract can be considered as a preventive and curative natural substance against ethephon induced oxidative stress and gonadal function in albino rat.

**Key words:** Artificial ripening agent, Ethrel, Gonadal function, Oxidative enzyme, Reproductive hormone