

## **Potential of *Typha angustifolia* L. in removing norethindrone from water**

### **ABSTRACT**

Uncontrollable demand of pharmaceutical especially contraception drugs and poor performance of conventional wastewater treatment plants has resulted in the increasing concentration of pharmaceutical residues in natural environment. Phytotechnology (phytoremediation technology) such as constructed wetland has been introduced as post treatment before the effluent is discharged from wastewater treatment plants to natural water courses. In this context, a study was conducted to assess the potential of the macrophyte, *Typha angustifolia* to remove norethindrone. This evaluation was conducted in hydroponic solutions with 0.5 – 2.0 mg/L of norethindrone for a maximum period of 21 days. The removal efficiency of norethindrone from the water by *T. angustifolia* reached a value of 90% of the initial contents. The range of relative growth rates of *T. angustifolia* in the norethindrone treated assays was 1.821 – 2.589. The result obtained from this study suggests that *T. angustifolia* has high capability to adapt and crop the toxicity of norethindrone when it is applied in phytotreatment.