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Management of cattail in standing water of Swabi district, Khyber Pakhtunkhwa (KPK) province, Pakistan)

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Management of cattail (*Typha latifolia*) was carried out in stagnant water ponds to assess the effect of various weed control methods in the Swabi district of KPK Pakistan in the March of 2015. The experiment was laid out in a randomized complete block design, replicated thrice with 8 treatments: glyphosate (1.0, 1.5, and 2.0 kg a.i. ha⁻¹), isoproturon (0.741 kg a.i. ha⁻¹), clodinafop-propargyl (0.3 kg a.i. ha⁻¹), and halosulfuron methyl (0.0375 kg a.i. ha⁻¹), along with a hand-weeding treatment and an untreated control. The highest number of sprouts were recorded (51.67 m⁻²) in control followed by hand-weeding (51.0 m⁻²) treatments, compared to the three rates of glyphosate (0.05 m⁻², 3.33 m⁻², and 6.0 m⁻², respectively), 40 days after treatment application. Similarly glyphosate resulted in the lowest biomass (0.03 kg m⁻²) compared to the control (0.92 kg m⁻²). Canopy coverage was 98% in the control, while only 0.02% was observed in glyphosate-treated plots. Rhizome biomass was also greater in control and hand-weeding plots compared to glyphosate. It is concluded that glyphosate did well at all three doses but 2 kg a.i ha⁻¹ proved best regarding cattail control. Perhaps hand weeding was difficult but if supplemented with herbicides application may provide better results for cattail control.

Key words: aquatic weed control, herbicides, hand weeding, aquatic weeds, *Typha latifolia*.