

**EFFECT OF AQUEOUS EXTRACT OF GREEN SEAWEED, *Ulva fasciata* ON PADDY AND OKRA SEED GERMINATION**

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Seeds having good germinability lead to successful crop production and higher yields. As some crop seeds show poor germination, different chemical and biological methods are used to enhance the germination power. Applying seaweed extractions has been used in many parts of the world to enhance the germinability of seeds. Seaweeds contain phytochemical characteristics, including macro-, micro-nutrients, and plant growth hormones, enhancing seed germination. The present study was conducted to evaluate the possibility of using an aqueous extract of *Ulva fasciata* on the germination of paddy (*Oryza sativa*) and okra (*Abelmoschus esculentus*) seeds. The experiment was arranged in a Complete Randomized Design (CRD) with three concentrations (4, 8, and 12%) of *Ulva* extract. All experiments were conducted in triplicate, and data were analyzed using one-way ANOVA at a 95% significance level ( $p < 0.05$ ). The results revealed that with Paddy seeds, 8% aqueous seaweed extract showed the highest germination percentage ( $86.0 \pm 1.7\%$ ) and Vigor Index II ( $0.6 \pm 0.2$ ), while application of seaweed extract with 12% strength resulted in the highest root length ( $14.1 \pm 0.7$  cm) and dry weight ( $0.007 \pm 0.002$  g). Seaweed aqueous extract of 4% showed the highest leaf area ( $3.57 \pm 0.18$  cm<sup>2</sup>), Vigor Index - I ( $1,391.4 \pm 60.9$ ), and Vigor Index - III ( $1,405.3 \pm 60.9$ ). With okra seeds, application of 12% extract gave the highest growth with increased shoot length ( $12.42 \pm 0.32$  cm), leaf area ( $9.26 \pm 0.40$  cm<sup>2</sup>), and dry weight ( $0.020 \pm 0.001$  g), Vigor Index - I ( $1,040.0 \pm 70.3$ ), Vigor Index - II ( $1.7 \pm 0.1$ ) and Vigor Index III ( $1,052.0 \pm 70.3$ ). However, the highest germination percentage ( $84.67 \pm 1.45\%$ ) was noted with 8% extract, while the lowest germination percentage ( $57.67 \pm 7.31\%$ ) was noted with 4% extract. The results suggest that 8% aqueous extract enhances seed germination and initial growth of Paddy and Okra.

**Keywords:** Okra, Paddy, Seaweed aqueous extract, Seed germination, *Ulva fasciata*