

Directions for Management of Aquatic Weeds in Lowland Rice

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The most frequently encountered aquatic weeds in rain-fed and irrigated lowlands include *Lemna* spp., *Salvinia molesta*, *Salvinia nymphellula*, *Pistia stratiotes* and *Eichhornia crassipes*.

Aquatic weeds of rice are mostly perennial - except for *Lemna* spp. - free-floating plants that reproduce vegetatively through rhizomes and stolons. They are a problem in lowland rice as they may shade out the rice, reduce water oxygen levels, take up high amounts of nitrogen and hamper effective and efficient use of water as they block irrigation and drainage canals or in-/outlets and increase water use (decreasing water use efficiency) through evaporation. Prior to cultivation the field can be drained after which the weeds can be left to desiccate or ploughed into the soil and decompose. During the cropping season, aquatic weeds can be manually removed and placed on land to desiccate. If feasible, water could be drained and the field allowed to dry until plants desiccate. A wide range of herbicides (e.g. 2,4-D, paraquat) can target aquatic plants (Ivens, 1976) although these should be used with care as they can negatively affect aquatic biodiversity. They may be applied to emergent or surface-floating weeds by a foliar spray similar to herbicide application used against regular weeds. Submerged weeds can be treated by reducing the water level to expose the foliage to herbicide or by directly adding the herbicide to the water (IRRI, 2011).

References

- IRRI, 2011. Weed smart. <http://irri.org/partnerships/networks/irrigated-rice-research-consortium/weeds-and-crop-establishment/weedsmart>
- Ivens, G.W., 1976. *East African Weeds and Their Control*, Oxford University Press, Nairobi.