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Utilisation of Aquatic Plants in Natural Wetland (Thalae-Noi) as Animal Feed

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Abstract

The objective of this study was to investigate the utilisation possibility of the aquatic plants in the natural wetland (Thalae-Noi) as animal feed. The aquatic plant samples were collected in November 2006 for identification and pending for chemical analysis. 16 aquatic plant samples were gathered and classified according to their location in the water and separated into 4 groups.

1) Marginal plants: The collected samples were *Hymenachne pseudointerrupta* C.Muell, *Leersia hexandra*, *Eragrostis tenella* (L.) and *Hanguana malayana* (Jack) Merr. 2) Floating plants: The collected samples were *Eichornia crassipes* (Mart) Solms, *Salvinia cucullata* Roxb. and *Pistia stratiotes* L. 3) Emerged plants: The collected samples were *Nymphoides parvifolia* (Griseb.) O. Kuntze, *Nymphaea lotus* L. and *Nymphaea stellata* Wild. 4) Submerged plants: The collected samples were *Vallisneria spiralis* L., *Najas graminea* Del., *Chara zeylanica* Kl. ex Wild., *Ceratophyllum demersum* Linn., *Hydrilla verticillata* (L.f.) Royle. and *Utricularia aurea* Lour.

The chemical composition was determined by proximate analysis and Van Soest method. The results showed that the aquatic plants had a high moisture content, which ranged from 64.36–96.43%. The crude protein, crude fat, crude fiber, ash, NDF and ADF content were 7.18–19.12% DM, 1.04–3.49% DM, 13.70–44.96% DM, 6.31–24.56% DM, 31.82–83.16% DM and 23.01–62.93% DM; respectively. The NFE ranged from 25.85–53.52%. Ca and P content were 0.14–1.54% DM and 0.11–0.46% DM; respectively.

According to the high crude fiber content, the utilisation of these aquatic plants as feed for monogastric animals is limited compared to the ruminant. However the reduction of moisture and appropriate processing is needed for efficient utilisation as animal feed.

Keywords: Animal feed, aquatic plants, Thailand, wetlands