

# **WATER HYACINTH (*Eichhornia crassipes*) AS A FEED FOR RUMINANTS**

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Water hyacinth (Eichhornia crassipes) an abundantly available aquatic plant of this region considered menace and the age old tradition believe that if this plant is fed to animal it will affect the health of the animals with severe diarrhea and suffer from salt imbalances. There are two types of water hyacinth available in the region - 1) Long type 2) Dwarf type. The former type is mostly available in stagnant water having high effluent while the later is available mostly in the paddy field.

Analysis indicated that these plants contain lot of potassium and sodium salts which hamper the balances of magnesium and causes the symptoms of diuretics. The other ant metabolites are due to the presence of oxalate which affects on its utilization.

### **1. Chemical Composition :**

- (i) Proximate analysis is revealed that long and dwarf type water hyacinth contained 14.28 and 11.87% crude protein, 21.79 and 18.22% crude fibre, 2.01 and 1.18% ether extract, 44.49 and 52.85% NFE and 17.43 and 15.88% total ash respectively. It is clear that the chemical composition of water hyacinth grown in water with more effluents resulted in higher chemical make up than that grown in water with less effluents.
- (ii) Long type water hyacinth showed a little higher content of both calcium & Phosphorous than that of dwarf type.

### **2. Palatability :**

- (i) Water hyacinth either fresh or wilted forms is not very much liked by animals, however, water hyacinth silage (4 part W H. : 1 parts paddy straw with 5% molasses on DM basis) the consumption is significantly more.

### **3. Nutritive value :**

- (i) DCP value in fresh water hyacinth (9.39-9.46%) is higher compared to silage form (5.43-5.41). The same is the case' in TDN values.
- (ii) Higher nitrogen retention in diets having fresh water hyacinth than silage based diets.
- (iii) In respect of mineral balances both Ca and P balances are higher in silage based diets than in fresh form.

#### 4. Growth Responses :

- (i) Feeding of water hyacinth silage and para hay (50:50) with concentrate mixture has the highest growth response while poorest growth due to feeding of 100% wilted water along with concentrate mixture. On the other hand feeding of 100% water hyacinth silage with concentrate mixture give the next best response.
- (ii) Tannin content was also recorded to be a little lower in long type compared to dwarf type of water hyacinth. There was in much difference in tannin content of leaf, stern and leaf and stern together. However, inclusion of fresh water hyacinth other than wilted one in place of water hyacinth silage also gives a good response.
- (iii) The feed efficiency ratio can be improved in feeding of 100% silage or 100% fresh form of water hyacinth as also 50% silage or 50% fresh water hyacinth with 50% grasses or 50% hay plus concentrate mixture.
- (iv) Nutrient contents were found to be much higher in plants at the stage of maximum growth (from March to October).
- (v) Appreciable changes were noticed in terms of mineral contents during the whole year. Calcium and phosphorus content's in particular were, however, highest in January.
- (vi) From the results analysis, it can be whole fresh water better in chemical that of naturally dried water hyacinth.
- (vii) The results of mineral analysis indicated that the calcium content of naturally dried water hyacinth was more than of fresh one, while phosphorus content was just the reverse.
- (viii) The tannin content of fresh water hyacinth was found to be a little higher than the naturally dried plants. Alkaloids and Glucoides were not present.

#### Milk production response

- (i) Feeding of water hyacinth silage and para hay (50:50) with concentrate showed best performance in daily milk yield. Next best is ad lib fresh water hyacinth with concentrate.
- (ii) No appreciable variation is noticed in respect of fat, TS, SNF, total protein, lactose ash percentage due to feeding of any forms of water hyacinth.

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