INTRODUCTION

Trichantera (*Trichantera gigantean*) is a shrub (small tree) that belongs to the Acanthaceae family (Figure 1). It is native to the Andean foothills in Columbia. It grows up to 5m (16 ft.) tall with a rounded crown; leaves are oval in shape narrowing at both ends and grows up to 26cm (10 inches) long.

USES OF TRICHANTERA

Trichantera is excellent forage for ruminant animals and rabbits. It can also be used as a live fence and a shade tree. Farmers in Colombia have used Trichantera as an indigenous medicinal plant to treat conditions in humans and farm animals.

The leaves are highly palatable and digestible. The crude protein content of trichantera is relatively high with no anti-nutritional factors or toxic compounds identified. Table 1 shows the nutritional content of Trichantera.

Table 1: Nutritional Content of Trichantera

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Protein</td>
<td>15 - 22%</td>
</tr>
<tr>
<td>Minerals</td>
<td>16 - 20%</td>
</tr>
<tr>
<td>Dry Matter</td>
<td>25 - 30%</td>
</tr>
<tr>
<td>Digestibility</td>
<td>50 - 60%</td>
</tr>
<tr>
<td>Palatability</td>
<td>High</td>
</tr>
</tbody>
</table>

CROP ESTABLISHMENT

Site Selection

Trichantera grows best in well drained loamy to clayey soils which are porous, yet have a good moisture holding capacity. It can grow well in acidic soils and fertilizing is recommended for maximum foliage production, based on the results of a soil test.

Land Preparation

- Remove all vegetation by brush cutting or spraying with a systemic herbicide.
- Conduct a soil test to determine the nutrient requirements of the soil. In the absence of a soil test broadcast and plough into the soil the following:
  - Well-rotted animal manure at a rate of 500 kg per hectare (446 lbs/ac).
  - A granular fertilizer high in phosphorus such as 12-24-12 at a rate of 200 kg/ha (178 lbs/ac).
- Plough with a heavy mould board to a depth of 30 - 35cm (11-13 inches) to ensure adequate drainage and aeration.
- Make cambered beds 5m (16 ft.) wide to allow proper drainage of the land.
PLANTING

Trichantera can either be grown from seeds or stem cuttings (stakes). Stem cuttings are however recommended because of the poor germination rate of seeds. Obtain stakes from the base of the young stems of the tree. Stakes should be 2.5cm (1 inch) in diameter and 20 - 25cm (8 - 10 inches) long, with a minimum of 2 leaf buds. If stakes are not planted right away keep them in a humid and shaded area to minimize moisture loss. Plant stakes either directly into the ground at a depth of 8 - 10 cm (3 - 4 inches) or set them in grow bags with a soil medium of 3 parts manure and 1 part sharp sand. Transplant them in the field 50 days after sowing.

SPACING

Trichantera can either be planted alone (monocrop) or intercropped with Leucaena. Legumes like Leucaena add nitrogen to the soil and this will allow Trichantera plants to produce more crude protein content in its herbage which lowers long term fertilizer cost.

- **Spacing for Monocropping**

If Trichantera is planted as a monocrop (without any other crops) high density planting is recommended for maximum production. Plant stakes 50cm (1.5ft.) apart within rows and 50cm (1.5ft.) apart between rows (Figure 2). This requires 40,000 plants/ha (17,000 plants/ac).

- **Spacing for Intercropping**

If Trichantera is intercropped with a legume such as leucaena, it should be planted together with the intercropped plant at a spacing of 80cm (2.5ft) between rows by 80cm (2.5ft) within rows.

![Figure 2: Illustration showing recommended Spacing for Planting Trichantera](image)

CROP MAINTENANCE

Fertilizer Application

Apply a top dressed application of a NPK fertilizer high in nitrogen example 20-10-10 at a rate of 160kg/ha (140lbs/ac) along the rows once per year. This will ensure maximum foliage growth in plants.

Irrigation

Ensure irrigation is provided when initial planting and fertilizing are done. It is recommended to irrigate plants during the dry season using a drip irrigation system.

Weed Control

Control weeds within the first year of establishing plants. Weeds can either be controlled by use of a weed whacker along the rows or by using herbicides. If using herbicides, use a selective post emergent one to control grass weeds. Organic mulch, for example dried grass, can also be applied on the surface of the soil to control weeds. After a year of growth, Trichantera trees would shade out the emerging weeds eliminating the need for any weed control.

Harvesting

Harvest (cut) Trichantera branches 4 - 6 months after planting, followed by cutting at 8 - 10 weeks intervals. This will yield approximately 14 tons/ha (12000lbs./ac) of fresh foliage after every cutting using the spacing recommended for monocropping.

Harvest by cutting the plant at 1m (3ft) above the ground and feed to animals in its fresh state. When harvesting, the branches should be cut in an upward direction to prevent any stripping of the bark that will cause fungal infections.

“All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, transmitted in any form, or by any means reproduced without permission in writing from the Ministry of Agriculture, Land and Fisheries.”

Published and Printed by
Ministry of Agriculture, Land and Fisheries
The Extension Training and Information Services Division
Trinidad and Tobago
January 2017