Introduction
Corn or maize (Zea mays L.) belongs to the family Gramineae. Corn is an important crop which supplies food for human and animal consumption. It is a good source of carbohydrates, vitamins (B1, B5, C, and E), phosphorus, magnesium, iron and zinc. It also contains fiber which helps the digestive system to function properly.

Did you know?
- The **Tassel** is a group of male flowers which produce pollen.
- The female flowers develop into the corn which is referred to as the **Ear**.
- The long soft threads at the top of the corn are called the **Silk**.

- Semi-mature green corn (12 - 14 weeks after planting) may be roasted.
- Mature dried corn (14-16 weeks after planting) may be ground into flour or the whole grains used in making animal feed.

Recommended Varieties
- CIMMYT 7728
- Pioneer Hybrid

CIMMYT 7728 is an Open Pollinated field variety and the seeds can be collected and replanted as the next crop. The seeds are “true-to-type” which means that the young plants will have the characteristics of the parent plant.

Seeds from hybrid varieties (Pioneer) should not be collected and replanted. Plants grown from these seeds will not have the characteristics of the parent plant.

Planting and Management
Land Preparation
Corn grows well in almost any soil type but a loose friable soil always gives better results.

A soil pH of 5.5 - 6.5 is ideal. Therefore, a soil test is recommended to determine the soil pH and the amount of limestone and fertilizer needed for optimum production.

The following land preparation practices are recommended for optimum production:
- Clear the land of all vegetation
- Deep plough
- Add limestone, if needed
- Add cured (well-rotted) manure to improve soil structure and fertility, if needed
- Rotavate
- Establish drains

The pollen is deposited on the silk and fertilizes the female flowers which develop into the corn ear.

Corn grown in Trinidad and Tobago can be used at three different stages of maturity:
- Young green corn (10-12 weeks after planting) may be consumed as boiled corn or used in soups and vegetable dishes.
**Spacing**

Corn seeds can be planted in the soil manually (by hand) or using a mechanical planter.

Space plants at 30 cm (1ft) within the rows and 90 cm (3 ft.) between rows. (Photo 2)

![Spacing between plants](image)

**Planting**

Plant two (2) seeds per hole about 2 - 3 cm (0.8 - 1.2 inches) deep, and cover lightly with soil.

**Fertilizer Application**

The corn plant requires all the elements for optimum growth and production. These are usually provided by the growing medium. However, nitrogen and potassium are needed in larger amounts. Use fertilizers to provide additional nutrients as needed.

**Note:** For commercial production, the fertilizer can be broadcasted within the rows of plants. For small scale, back-yard gardening the fertilizer can be placed around the individual plant.

Each plant requires approximately 10 - 15 grams of fertilizer per application.

- **At planting or within two (2) weeks after planting**, broadcast approximately 140 kg/hectare or (308 lbs./acre) of a fertilizer high in phosphorus e.g. 12:24:12 or Triple Super Phosphate.
- **Three (3) weeks after the plants have emerged**, broadcast a mixture of Urea (140 kg/hectare) and 12:24:12 (140 kg/hectare) or Triple Super Phosphate.
- **Seven (7) weeks after plants have emerged**, broadcast approximately 140 kg/hectare of a fertilizer high in potassium e.g. 9:6:24 or 12:12:17:2 + TE.

**Weed Control**

Keep the field weed-free at all stages in the growth and development of the crop.

A pre-emergent or post-emergent herbicide can be used according to the manufacturer’s recommendation.

**Note:** Corn belongs to the grass family, therefore, caution is recommended when choosing weedicides.

Always use protective gear when mixing and spraying weedicides.

**Pest and Disease Management**

**Pest Management**

The major pests of corn are corn earworm (*Heliothis virescens*) (Photo 3), corn leaf worm or army worm (*Spodoptera frugiperda*) (Photo 4) and birds.
• **Corn Earworm** (*Heliothis virescens*)

  The adult moth lays eggs on the developing silks or on the leaves near the ear. The eggs hatch into larvae (caterpillars) which follow the silk down into the ear, where they feed. Once the larva is protected by the husk covering, there is no effective control measure.

• **Corn Army Worm** (*Spodoptera frugiperda*)

  The adult moth lays eggs in the rolled leaf of the corn plant. The eggs hatch into larvae, which then feed on the leaf. It is only when this leaf fully emerges that the pest damage is seen.

**Disease Management**

**Downy Mildew and Rust** may affect the leaves of the corn plant. However, in Trinidad and Tobago these diseases do not affect yields.

**Harvesting**

One corn plant produces two corn, but only one will be marketable.

Young green corn is ready for harvesting at 10 - 12 weeks after the seeds were planted. At this stage the silk turns brown and the corn grains (kernels) are at the “milk” stage, good for boiling.

The semi-mature green stage will be ready for harvesting at 12 - 14 weeks after planting. At this stage the husk changes color from green to light yellow (Photo 5).

The mature dried corn will be ready for harvesting at 14 - 16 weeks after planting. At this stage the husk is cream.

At harvesting hold the corn ear firmly and pull downwards briskly for it to snap away from the plant.

A sharp knife or cutlass can also be used to remove the ear from the plant.

Use plastic harvesting crates to collect and transport the corn. Store in a cool, dry area.

**Note:** The quality of the young green and semi-mature corn starts deteriorating within a week after harvesting.

The shelf life is further reduced once the husk is removed from around the corn.

**Spray with a systemic insecticide at the recommended rates to manage and control the corn earworm and the corn army worm, taking into account the pre-harvest interval (the period of time when no harvesting should be done because of pesticide residue on the produce).**

• **Birds**

  Use seedlings in areas where birds consume newly planted seeds.
Cost of Production

When preparing a cost of production for a crop consideration must be given to all the activities involved in growing this crop and the cost of the inputs. Some of these activities include: land preparation, planting and fertilizing.

Labour cost for weed control, pest management and harvesting must also be considered.

Table 1: Estimated Cost of Production for 1 hectare of Young Green Corn  (May 2013 )

<table>
<thead>
<tr>
<th>Activity</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Cost $</th>
<th>Total $</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land Preparation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brush – cut (clearing)</td>
<td>Hectare</td>
<td>1</td>
<td>1350</td>
<td>1350</td>
</tr>
<tr>
<td>Plough</td>
<td>Hectare</td>
<td>1</td>
<td>1500</td>
<td>1500</td>
</tr>
<tr>
<td>Rotavate/Bank</td>
<td>Hectare</td>
<td>1</td>
<td>1600</td>
<td>1600</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td>4450</td>
</tr>
<tr>
<td><strong>Seed - Hybrid</strong></td>
<td>Kg</td>
<td>23</td>
<td>77</td>
<td>1771</td>
</tr>
<tr>
<td><strong>Manure</strong></td>
<td>Bags (23 kg)</td>
<td>200</td>
<td>15</td>
<td>3000</td>
</tr>
<tr>
<td><strong>Limestone</strong></td>
<td>Ton (1000 kg)</td>
<td>2</td>
<td>2000</td>
<td>4000</td>
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<tr>
<td><strong>Fertilizer</strong></td>
<td></td>
<td></td>
<td></td>
<td>8771</td>
</tr>
<tr>
<td>High Nitrogen</td>
<td>Bags (23 kg)</td>
<td>6</td>
<td>200</td>
<td>1200</td>
</tr>
<tr>
<td>High Phosphorous</td>
<td>Bags (23 kg)</td>
<td>13</td>
<td>275</td>
<td>3575</td>
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<tr>
<td>High Potassium</td>
<td>Bags (23 kg)</td>
<td>6</td>
<td>350</td>
<td>2100</td>
</tr>
<tr>
<td><strong>Pre–Emergent Weedicide</strong></td>
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<td>125</td>
<td>375</td>
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<tr>
<td><strong>Insecticide</strong></td>
<td>Litre</td>
<td>2</td>
<td>250</td>
<td>500</td>
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<tr>
<td><strong>Labour</strong></td>
<td>Man day</td>
<td>60</td>
<td>200</td>
<td>12000</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td>32,971</td>
</tr>
</tbody>
</table>

Note:
- 1 hectare can hold 60,000 plants and one marketable corn can be harvested from a plant. One hectare can therefore yield 60,000 corn.

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