7. Conservation methods of malunggay (cut at 6 months after planting)

Leaf meal production (at 1,410m²)
- Quantity of leaf meal is 624 kg.
- Amount of concentrate when mixed at 15% - 4,160 kg. (83 bags)
- No. of cows that can be fed at 2 kg./hd./day - 312
- No. of days to support 5 cows - 62
- Cost of leaf meal at ₱10.00/kg – ₱6,240

Malunggay Foliage for Milking Cows is a result of the project titled, “S & T Based- Farm Project on the Utilization of Malunggay (Moringa oleifera) foliage as feed supplement for dairy cattle” which is a collaborative effort of National Dairy Authority (NDA), Animal and Dairy Sciences Cluster (ADSC), and Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD) Department of Science and Technology (DOST) in cooperation with the Daily Dairy Farm at Brgy. Ayusan 1, Tiaong, Quezon.
Malunggay Foliage for Milking Cows

1. Malunggay foliage
   a. Usually given as food for nursing mothers and believed to “increase milk secretion”
   b. Commonly grown in the backyard and along fence lines as post.
   c. It is a nutritious feed for cattle.

2. Malunggay is easy to propagate
   a. Can be propagated by stem cuttings (5-10 cms. in diameter, 45-60 cms. long) or by seeds.
   b. Land preparation by disc plowing or animal driven implement.
   c. Planting the stems at 15 cms. deep
   d. Fertilization initially with urea and organic fertilizer (manure) to maintain soil fertility.
   e. Can tolerate frequent cutting and with good coppicing ability.

3. Malunggay pasture
   a. Distance of planting is 75 cm x 75 cm
   b. No. of hills planted is 2,507 in 1,410 m²
   c. Best to harvest at 45 days cutting interval

4. Total yield of malunggay pasture at 1,410 m² at 45-day cutting interval
   - Wet season - 5,204.4 kgs.
     No. of hills to produce 5 kgs. is 10
     No. of cows that can be supported given 5 kg./hd./day is 6
   - Dry season - 2,346.4 kgs.
     No. of hills to produce 5 kgs. is 21
     No. of cows that can be supported given 5 kg./hd./day is 3

5. Milk production of milking cows

<table>
<thead>
<tr>
<th>Stage of lactation</th>
<th>Without malunggay</th>
<th>With malunggay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial milk (kg.)</td>
<td>10.6</td>
<td>10.0</td>
</tr>
<tr>
<td>Average production (kg.)</td>
<td>11.3</td>
<td>15.8</td>
</tr>
<tr>
<td>Early lactation (100 days)</td>
<td>8.2</td>
<td>9.4</td>
</tr>
<tr>
<td>Middle lactation (200 days)</td>
<td>7.5</td>
<td>7.2</td>
</tr>
</tbody>
</table>

6. Net income change per day with 5 kg. of malunggay foliage per cow/day

<table>
<thead>
<tr>
<th>Stage of lactation</th>
<th>Net income change (₱)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early lactation (100 days)</td>
<td>93.81</td>
</tr>
<tr>
<td>Middle lactation (200 days)</td>
<td>60.50</td>
</tr>
<tr>
<td>Late lactation (300 days)</td>
<td>38.41</td>
</tr>
</tbody>
</table>