IMPLEMENTATION COSTS OF CROP-LIVESTOCK INTEGRATION (CLI) IN PASTURE ON
BEEF CATTLE FARMING, SÃO JOSÉ DO RIO PRETO, SP

CUSTO DE IMPLANTAÇÃO DA INTEGRAÇÃO LAVOURA-PECUÁRIA EM PASTAGEM,
NA RECRIA DE BOVINOS DE CORTE, SÃO JOSÉ DO RIO PRETO-SP

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This study analyzes the implementation costs of four models of integrated Crop-Livestock systems,
with corn in tillage (Zea mays L.) intercropped with Brachiaria decumbens, without conventional
tillage in the first year and subsequent years, while comparing them with two others grazing
models used to rear Nellore females during the agricultural years of 2007-08, 2008-09 and 2009-10.
This economic study was based on the technical coefficients matrices constructed from data
gathered from an experiment on Crop-Livestock Integration (CLI) developed at the Unidade de
Pesquisa e Desenvolvimento de São José do Rio Preto (SP), no Pólo Centro Norte. In this
experiment, four models of rotational grazing with Brachiaria decumbens x corn in comparison to
permanent pasture of Brachiaria decumbens fertilized with two levels of nitrogen fertilizers (45 and
90 kg/ha/year), with and without correction of soil acidity, respectively. The four integration
models differ by the occupation of the areas during the rainy season, with the following
combinations: one or two consecutive years of corn intercropped with brachiaria, followed by one
or two years of grazing. During the dry season, all areas are used as pasture. The economic results
were grouped into four categories with similar characteristics in terms of area occupation and
management, regardless of treatment, considering the averages: P- permanent pasture with
remnant management; Pi- permanent pasture with intensive management; Pf1– 1st year of pasture
formed by CLI; and CLI– pasture followed by crop. The interest of such analysis lies in studying
the CLI in parts to understand better the results of the treatments. Accordingly, the CLI category
refers only to the year when corn and calf rearing occur in the same area. The data obtained from
the analysis show clearly that in this study, the CLI has better economical results with gross profit
margin of 42% TOC and operational profit of R$1,009.20/ha. Therefore, the strategy displayed
good average indices for animal and agricultural productivity with good profit, allowing indemnity
for other expenses not charged to the operating cost.

Table 1. Economic results regarding the Crop-Livestock Integration Model used in the Nellore Cows rearing
system, 1ha, São José do Rio Preto (SP), Averages for the agricultural years of 2007/08, 2008/09 and

<table>
<thead>
<tr>
<th>Item</th>
<th>P</th>
<th>Pi</th>
<th>Pf1</th>
<th>CLI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Operational Cost (TOC)</td>
<td>848.39</td>
<td>1,226.22</td>
<td>1,222.28</td>
<td>2,373.51</td>
</tr>
<tr>
<td>Gross Revenue (GR)</td>
<td>1,235.76</td>
<td>1,663.19</td>
<td>1,709.71</td>
<td>3,382.80</td>
</tr>
<tr>
<td>Gross Profit TOC (GP) - %</td>
<td>45.66</td>
<td>35.64</td>
<td>39.88</td>
<td>42.52</td>
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<tr>
<td>Benefit/cost</td>
<td>1.46</td>
<td>1.36</td>
<td>1.40</td>
<td>1.43</td>
</tr>
<tr>
<td>Operating profit (OP)</td>
<td>387.37</td>
<td>436.97</td>
<td>487.43</td>
<td>1,009.29</td>
</tr>
<tr>
<td>Profitability Index - %</td>
<td>31.35</td>
<td>26.27</td>
<td>28.51</td>
<td>29.84</td>
</tr>
</tbody>
</table>

Keywords: Brachiaria decumbens, corn, Nellore.