Labour time required for piglet castration with isoflurane anaesthesia

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Objective
To investigate the amount and components of labour time for isoflurane anaesthesia performed with stationary and shared devices

Background
• Isoflurane anaesthesia combined with an analgesic represents a welfare-friendly method for piglet castration
• Equipped inhaler device is required, which is unprofitable for small farms
• Is sharing a device among several farms an economical option?

Material and methods
• Anaesthesia with isoflurane, castration
• 4 farm visits per farm
• Labour time recording:
  • Machine set-up, anaesthesia and castration by practitioner
  • Preparation, collection and transport of piglets by farmer

Results
• Labour time required for the complete process was increased (Table 1)
• Elevated time spent for preparation, castration and packing when sharing a device

Table: Labour time (s / piglet) for single process steps and complete process (LSM ± SE)

<table>
<thead>
<tr>
<th>Process step</th>
<th>Stationary (s)</th>
<th>Shared (s)</th>
<th>P, ≤</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation</td>
<td>23 ± 10.2</td>
<td>52 ± 8.6</td>
<td>0.055</td>
</tr>
<tr>
<td>Collection</td>
<td>51 ± 16.0</td>
<td>50 ± 13.9</td>
<td>0.972</td>
</tr>
<tr>
<td>Castration</td>
<td>74 ± 4.1ᵃ</td>
<td>88 ± 3.8ᵇ</td>
<td>0.026</td>
</tr>
<tr>
<td>Transport</td>
<td>14 ± 1.5</td>
<td>13 ± 1.4</td>
<td>0.823</td>
</tr>
<tr>
<td>Packing</td>
<td>26 ± 8.2ᵃ</td>
<td>60 ± 7.0ᵇ</td>
<td>0.010</td>
</tr>
<tr>
<td>Complete process</td>
<td>177 ± 21.8ᵃ</td>
<td>266 ± 18.8ᵇ</td>
<td>0.012</td>
</tr>
</tbody>
</table>

ab: Different letters indicate significant differences (p<0.05)

• No significant differences (P>0.05) for components of total time budgets for stationary or shared use (Fig.) on percentage base
• Cost from time spent by farmer: no considerable difference between the use of stationary (0.26€ per piglet) and shared (0.28€) devices

Conclusion
Costs arising from increased labour time of the shared use of the device are marginal
High expenses originating from the purchase of an inhaler device are shared among farms

Material and methods
Piglets (N=1579)
12 organic farms

Group 1, n=5 stationary devices
Farm size: 84 sows

Group 2, n=7 shared devices
Farm size: 32 sows

Figure: Components of the time budget; stationary and shared device compared in %