Strategies to Achieve the GHG Mitigation Goals of the Livestock Sector in Latin America

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There is a need to ensure that farmers have access to inputs, capital and other necessary resources to implement mitigation actions.

Potential methane emission reductions

CONCLUSIONS

• Cattle is a major contributor to GHG emissions from the AFOLU sector for most Latin American countries and it would be practically impossible to achieve national emission reduction targets without considering significant reductions from the cattle sector of Latin America.

• Considering cattle only as a large source of GHG emissions would be an incomplete assessment. Their contribution to food production and rural economies are just two of the many other dimensions that need to be considered.

• A range of technologies and agronomic practices exist to improve farm level and sector level productivity. A real challenge is to increase productivity without also increasing methane emissions.

• Achieving the desired reductions in enteric methane emissions is feasible but there is a need to consider a set of high leverage actions to increase adoption and adoption of novel technological options and incentivize behavioral change.

REFERENCES


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IT’S NOT JUST THE COW’S FAULT

• Livestock production is a fundamental source of income and greenhouse gas (GHG) emissions in Latin America (LA) countries (T1).

• There are several management and technology options with enteric methane emissions compared to traditional grazing systems.

• 20% below 2010 levels in 2030

• 50% lower CH₄ emissions yield

• 20% below BAU scenario in 2030

• 4% lower CH₄ yield

• 1.04

• 9.6%

• 0.06

• 17%

• 1.04

• 19.4%

• 1.68

• 19.2%

• 13.3

• 72%

• 197

• 13.2%

• 18.7

• 6.3%

• 20% below 2010 levels in 2030

TABLE 1 | National areas dedicated to cattle production, GHG emissions and proportion of GHG emissions associated with cattle raising and GHG emission reduction in seven countries of Latin America

<table>
<thead>
<tr>
<th>Country</th>
<th>Land use (million ha)</th>
<th>National GHG emissions (MTCO2eq)</th>
<th>Proportion of livestock-source to national GHG emissions</th>
<th>Emission reduction target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colombia</td>
<td>37</td>
<td>236.97</td>
<td>9.6%</td>
<td>20% below BAU scenario in 2030</td>
</tr>
<tr>
<td>Argentina</td>
<td>110.06</td>
<td>364.4</td>
<td>17%</td>
<td>Limit increase to 35% above 2010 levels by 2030</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>1.04</td>
<td>11.25</td>
<td>19.4%</td>
<td>25% below 2012 levels in 2030</td>
</tr>
<tr>
<td>Brazil</td>
<td>168</td>
<td>1,465.28</td>
<td>19.2%</td>
<td>Limit increase to 5% above 2010 levels by 2025</td>
</tr>
<tr>
<td>Uruguay</td>
<td>13.3</td>
<td>32.36</td>
<td>72%</td>
<td>42% below BAU scenario by 2025</td>
</tr>
<tr>
<td>México</td>
<td>197</td>
<td>534.61</td>
<td>13.2%</td>
<td>22% below BAU scenario by 2030</td>
</tr>
<tr>
<td>Peru</td>
<td>18.7</td>
<td>169.71</td>
<td>6.3%</td>
<td>20% below 2010 levels in 2030</td>
</tr>
</tbody>
</table>

• There are several management and technology options with enteric methane (CH₄) mitigation potential that have been evaluated and their scale is expected to contribute to achieving the GHG emission reduction targets under the Paris Agreement.

• Despite the availability of promising mitigation options (T2) for the cattle sector in LA, their adoption by farmers is still limited by multiple factors.

• There is a need to ensure that farmers have access to inputs, capital and information. Since the establishment of more sustainable technologies involves high initial costs, under capital scarce conditions, formal credit systems become essential.

• In most LA countries, no specific credit options exist for such purposes, leaving many producers with scarce financial resources and without opportunities for implementing mitigation options.

• A differentiation of products derived from environmentally friendly production systems could help in sourcing capital for investing in mitigation options, but efforts in that direction are still scarce and have yet to be proven as applicable at a large scale.

• Although the scientific community is generating valuable information on different mitigation options, it is not guaranteed that this information reaches the final users.

• Currently, technical assistance often stops after selling an input (e.g., seeds) and does not include (post-) establishment support, leading in many cases to a wrong application of promising alternatives, negative experiences, disappointment, and a negative image of the technologies within and beyond farming communities.

TABLE 2 | Methane mitigation options tested in seven countries of Latin America

<table>
<thead>
<tr>
<th>Country</th>
<th>Region</th>
<th>Tested mitigation actions</th>
<th>Potential methane emission reductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colombia</td>
<td>Valle del Cauca</td>
<td>Silvopasture</td>
<td>23.4% lower CH₄ yields compared to traditional grazing systems</td>
</tr>
<tr>
<td>Argentina</td>
<td>Southeast Buenos Aires</td>
<td>Improved pasture management</td>
<td>50.1% lower CH₄ yields than those from degraded pastures</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>Atenas</td>
<td>Grazing with supplements</td>
<td>26% lower emissions intensity of beef production</td>
</tr>
<tr>
<td>Brazil</td>
<td>Río Grande do Sul</td>
<td>Grazing supplementation and crop diversification</td>
<td>Steers fed with high quality hay during the summer months had 30% lower CH₄ yield</td>
</tr>
<tr>
<td>Uruguay</td>
<td>Colonia, Uruguay</td>
<td>Improved grassland management</td>
<td>Beef cattle fed with natural pasture plus cash crop soybean had 7 and 5% lower emissions intensities</td>
</tr>
<tr>
<td>México</td>
<td>Yucatan Peninsula</td>
<td>Silvopasture</td>
<td>Beef cattle fed with high quality pasture had a 12% lower CH₄ emission yield</td>
</tr>
<tr>
<td>Peru</td>
<td>Central Andes</td>
<td>Improvement of forage quality</td>
<td>Lactating cows fed cultivated pastures during the rainy season had a 79% lower CH₄ emission intensity</td>
</tr>
</tbody>
</table>

FURTHER READING

More exhaustive literature can be obtained on this link: https://bit.ly/3jWzpRQ or scan this QR code.