LAND USE IN BRAZIL

<table>
<thead>
<tr>
<th>Million Ha*</th>
<th>Total Area</th>
<th>Native Vegetation</th>
<th>Land in Actual Use</th>
<th>Other Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>851</td>
<td>554</td>
<td>260</td>
<td>38</td>
</tr>
<tr>
<td>100%</td>
<td>65%</td>
<td>30%</td>
<td>5%</td>
<td></td>
</tr>
</tbody>
</table>

Conservation Units and ILs: 204 (24%)
Permanent Protected Areas: 135 (16%)
Other Native Vegetation: 214 (25%)

Pastures: 200 (23%)
Crop Land: 60 (7%)
Sugarcane: 9.5 (1%)
Sugarcane FOR ETHANOL: 4.6 (0.5%)

More land will be made available:
“Low Carbon Agricultural Plan”:
✓ Recovery of **15 million ha** of degraded pastures by 2020 (doubling its yields).

Source: ICONE, Gerd Sparovek, IBGE, MMA, INPE/TerraClass, Embrapa, PAM2010.
Elaboration: Cosan and UNICA.
Note: ILs = Indigenous Lands. Other Native Vegetation include Legal Reserves (RLs)
SIMULTANEOUS EXPANSION OF ALL MAJOR CROPS

Sources: CONAB; IBGE; ABRAF; UNICA
WHERE IS SUGARCANE PRODUCED?

~ 90 % of sugarcane production

Sources: NIPE-Unicamp, IBGE and CTC
Empirical data shows no correlation between ethanol expansion and deforestation.

Brazil has a unique combination of:

- Availability of land not occupied with native vegetation => degraded pastures
- Large amount of protected native vegetation
- Agricultural sector with high productivity levels
- Strong conservation laws based on “control-command” enforcement

Sources: Prepared by UNICA. INPE (deforestation rates) and IBGE and UNICA (sugarcane area).
In all regions with important sugarcane expansion, grain production has expanded as well, both expanding in areas previously occupied by pastures and in all those areas the cattle herd has grown due to increases in productivity.
GRAINS, LIVESTOCK, SUGAR CANE CAN EXPAND WITH YIELD IMPROVEMENT

<table>
<thead>
<tr>
<th>LIVESTOCK</th>
<th>2002</th>
<th>2012</th>
<th>Variation</th>
<th>CAGR (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pasture area (1000 ha)</td>
<td>184,037</td>
<td>180,785</td>
<td>-3,252</td>
<td>-0.14%</td>
</tr>
<tr>
<td>Herd (1000 Head)</td>
<td>185,349</td>
<td>213,239</td>
<td>27,890</td>
<td>0.98%</td>
</tr>
<tr>
<td>Meat production (1000 MT)</td>
<td>7,139</td>
<td>9,748</td>
<td>2,609</td>
<td>2.64%</td>
</tr>
<tr>
<td>Livestock yield (kg of meat/ha)</td>
<td>39</td>
<td>54</td>
<td>15</td>
<td>2.78%</td>
</tr>
<tr>
<td>Milk production (1000 liters)</td>
<td>24,172</td>
<td>33,996</td>
<td>9,824</td>
<td>3.6%</td>
</tr>
<tr>
<td>Milk production (liters/cow)</td>
<td>1,286</td>
<td>1,479</td>
<td>193</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

Sources: CONAB; UNICA; IBGE: ICONE.