HOW REPRESENTATIVE OF THE HUMAN SMOKING BEHAVIOUR WOULD THE NEW ALTERNATIVE SMOKING REGIMES BE?
A first attempt of assessment.

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CORESTA 2006
• ISO TC 126 : new working group WG9
  – To define a new smoking regime « more representative of human smoking behaviour than ISO standard »

• First Result of WG9 :
  – 3 alternative regimes, + Intense regime (Canada) to be considered (WHO)

• Final WG9 proposal :
  – Choice to be made (ISO TC 126) between WGB and Intense regime
## MACHINE SMOKING CONDITIONS

<table>
<thead>
<tr>
<th>CODE</th>
<th>ORIGINE</th>
<th>Puff volume (mL)</th>
<th>Puff interval (s)</th>
<th>Vent blocking (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT</td>
<td>CANADA</td>
<td>55</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>ISO</td>
<td>ISO</td>
<td>35</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>WGA</td>
<td>WG9</td>
<td>55</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>WGB</td>
<td>WG9</td>
<td>60</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>WGC</td>
<td>WG9</td>
<td>45</td>
<td>30</td>
<td>100</td>
</tr>
</tbody>
</table>
OBJECTIVE of the study

– Using previously assessed human smokers yields
– Smoking the same cigarettes under the different machine smoking regimes

➢ To compare the human yields previously assessed to the different machine yields
Puffing profile  →  YIELDs Measurements  →  DUPLICATION  →  CALIBRATION CURVES  →  YIELDs Assessment

LABORATORY CONDITIONS

NATURAL CONDITIONS

nicotine (mg per cigarette)

OD at 464nm (SPA)
4 commercial cigarettes (French market)

Total number of subjects = 432
Total number of butts = 6,691
RESULTS

- Machine yields vs average Smokers yields
- Detailed Smokers yields vs Machine yields
RESULTS

- *Machine yields vs average Smokers yields*
- *Detailed Smokers yields vs Machine yields*

- Smokers yields below ISO
- Smokers yields between ISO and the lowest alternative regimes’ yield
- Smokers yields between the lowest and highest alternative regimes’ yield
- Smokers yields higher than the highest alternative regimes’ yield
LIGHT 1
n=133

LIGHT 2
n=186
### Tar

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Count (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X &lt; ISO</td>
<td>7%</td>
<td>(n=30)</td>
</tr>
<tr>
<td>Lowest &gt; X ≥ ISO</td>
<td>91%</td>
<td>(n=393)</td>
</tr>
<tr>
<td>Highest &gt; X ≥ Lowest</td>
<td>1%</td>
<td>(n=6)</td>
</tr>
<tr>
<td>X &gt; Highest</td>
<td>1%</td>
<td>(n=3)</td>
</tr>
</tbody>
</table>

### Nicotine

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Count (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X &lt; ISO</td>
<td>3%</td>
<td>(n=11)</td>
</tr>
<tr>
<td>Lowest &gt; X ≥ ISO</td>
<td>93%</td>
<td>(n=404)</td>
</tr>
<tr>
<td>Highest &gt; X ≥ Lowest</td>
<td>2%</td>
<td>(n=10)</td>
</tr>
<tr>
<td>X &gt; Highest</td>
<td>2%</td>
<td>(n=7)</td>
</tr>
</tbody>
</table>

432 smokers
6691 butts
CONCLUSIONS

• ISO < average smoker < alternative regimes yields
• > 95% of the smokers produce less tar and nicotine than the lowest alternative smoking regime
• None of them could pretend to be representative of the human smoking behaviour
• For low ventilated cigarettes, they could rather represent the maximum yields a smoker could produce from the cigarette