Governing Nutrient Pollution Beyond Farmers

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International Nitrogen Initiative

Agriculture dominates N policies

Kanter et al. in prep.
Most not focused on N pollution

Policy Type by Sector

Agriculture

- Pre-Nitrogen: 18.4%
- R&D: 1.3%
- Framework: 8.2%
- Data & Methods: 2.5%
- 173 (18.4%)
- 140 (14.9%)
- 77 (8.2%)
- 1466 (49.5%)

Regulatory: 14.9%
Economic: 8.3%
Commerce: 49.5%

Kanter et al. in prep.

Most farmers not using 4Rs

Kanter and Searchinger, 2018
Expanding horizons: agri-food chain

Central question: How to reduce agricultural nutrient pollution without regulating farmers?

Objective: Design, evaluate and apply governance templates focused on non-farm actors in the agri-food chain that ultimately influence farm-level nutrient management
# Market for better N management

Table 1 | The enhanced-efficiency fertilizer products and nitrogen best-management services offered (or not) by the companies shown in Fig. 3. Note that market shares are smaller than production capacities due to the contribution of N imports

<table>
<thead>
<tr>
<th>Company</th>
<th>Market share (North America; %)</th>
<th>Product Type</th>
<th>Service Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF Industries</td>
<td>31</td>
<td>Controlled-release fertilizer</td>
<td>Echelon; Nutrient removal calculator; Precision agriculture; N calculator</td>
</tr>
<tr>
<td>Nutrien</td>
<td>17</td>
<td>Environmentally smart nitrogen (ESN)</td>
<td>-</td>
</tr>
<tr>
<td>Koch Fertilizer</td>
<td>8</td>
<td>Urease inhibitor</td>
<td>-</td>
</tr>
<tr>
<td>Agtaine Plus</td>
<td>Super U</td>
<td>Urease and nitrification inhibitor</td>
<td>-</td>
</tr>
<tr>
<td>OCI Nitrogen</td>
<td>4</td>
<td>Controlled-release fertilizer</td>
<td>OCI Nutri-N app; N calculator</td>
</tr>
<tr>
<td>Yara</td>
<td>3</td>
<td>-</td>
<td>N-tester; Soil N testing; N-sensor; Adapt-N; Precision agriculture</td>
</tr>
</tbody>
</table>

Kanter and Searchinger, 2018
Using CAFE standards as a model


- **miles per gallon equivalent**
- **Model year**
- **Obama Administration Standards**
- **54.5 mpg floor nationwide average in 2025**

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**Neem works its magic on urea**

PM Modi government's mandatory coating policy brings down sale of fertilisers, despite record farm production

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Written by Harish Damodaran | New Delhi | Updated: March 23, 2017 11:56:13 am

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