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SUMMARY

Results and recommendations
Research Question 1 - Methodology

How should the sustainability of the production of responsible soy be measured?

Result:

- During 2014 a method was set up to monitor the results of the transition to 100% responsible soy in the Dutch animal feed sector in terms of ecological, social and economic sustainability.

- The method was based on a collaboration between local and international stakeholders and independent research. The collaboration has been successful as it has bridged the gap between the (partly) opposing interests of the parties involved.
Research Question 1 (continued)

- Data availability and data collection have been limiting factors. As a result, it will take a few years for the method to produce trustworthy, comparable, representative and comprehensive insights into the transition to responsible soy use. This report therefore gives a baseline, focusing mainly on the years 2012 and 2013; additional analysis will follow in a subsequent issue.

- Story-telling is recommended as a way to add insight to the quantitative analysis
Research Question 2

Does the transition to responsible soy in the Dutch animal feed and consumer goods sectors improve the sustainability of soy production?

- It is not yet possible to give a firm answer to this question
- The method that has been developed requires more time to produce trustworthy, comparable, representative and comprehensive insights into the transition to responsible soy use
- Results in terms of increased sustainability are limited, due to limited purchase and changing suppliers
Research Question 3

How should the acceptance of responsible soy on the Dutch market be measured?

- The combination of analysing agreed sector ambitions, industry support and standards and retail and supply chain agreements provides valuable insight into the progress of the transition to an increase in the use of responsible soy in consumer products.

- Several initiatives, partly overlapping, are in progress, showing a clear development towards full coverage of the use of sustainable soy in domestic consumption.
Introduction
Transition to responsible soy

- Business community interest in increasing the sustainability of the soy used in animal feed led to the establishment of the *Stichting Ketentransitie Verantwoorde Soja* (Foundation for the Transition to Responsible Soy) (abbreviated SKT)
  - Ambition of SKT: 100% use of responsible soy in animal feed by 2015 for Dutch companies

- This report presents the results of a project to monitor the results of the transition to 100% responsible soy in the Dutch animal feed sector in terms of ecological, social and economic sustainability.
Stakeholders in the project

Project part of Public Private Partnership: Feed4Foodure

- Project MVV6
- Financed by a grant from the Ministry of Economic Affairs, cash from SKT and contributions from NGOs and the business community

Formal involvement: LEI Wageningen UR, SKT, Nevedi, WWF NL and MVO.

Additionally: IDH, Natuur en Milieu, Solidaridad, IUCN NL, OxfamNovib and Both ENDS

Project work group: Nevedi, MVO, IDH, WWF NL, Solidaridad and LEI Wageningen UR.

LEI Wageningen UR led the project and acted as an independent bridge between the project partners.
Funding and project work group partners

Stichting Ketentransitie Verantwoorde soja
Nevedi
WWF NL
MVO
IDH
Solidaridad
IUCN NL
Natuur & Milieu
1. How should the sustainability of the production of responsible soy be measured?

2. Does the transition to responsible soy in the Dutch animal feed and consumer goods sectors improve the sustainability of soy production?

3. How should the acceptance of responsible soy on the Dutch market be measured?
Research question 1

How should the sustainability of the production of responsible soy be measured?
Methodology

- Indicators were identified on the basis of theory of change
  - e.g., pesticide use, biodiversity

- Criteria for the selection of indicators
  - Limited number of meaningful indicators
  - In line with current challenges
  - Attention to the availability of data (e.g., audit reports)
  - Data collection partly done by partners
  - RTRS only

- 4 indicator groups: Economic, Environmental, Social and Purchase

- Systematic approach also applicable to other commodities
Collaboration and data collection

- Good cooperation in the project group; the group has a shared goal of objective monitoring

- Information based on collaboration between LEI Wageningen UR, IDH, WWF NL, Solidaridad, IUCN NL, Nevedi and MVO
  - Willingness of soy producers to cooperate increased over time. This takes time as the approach is multi-staged and requires trust.
  - List of indicators had to be limited, as data were scarce or not available, and results for some indicators are not comparable; list of indicators might be expanded in future, depending on availability and accessibility.
  - After a process of reduction, a list of 45 parameters was sent to all farmers in the sample

- Choice of sample: representative, related to IDH activities
Result of research question 1

The developed method appears to enable assessment of the impact of the transition to responsible soy

- Collaborative search for a set of indicators
- Shared goal of objective monitoring
- Data availability is a limiting factor
  - Story-telling to be added together with RTRS, ProTerra and Solidaridad, with funding by IDH
- It takes time to develop a robust method
Research question 2 - Production

Does the transition to responsible soy in the Dutch animal feed and consumer goods sectors improve the sustainability of soy production?
IDH projects

- IDH contributes to the transition to more responsible production
- In soy, many projects are being set up and funded to improve the production conditions at participating farms
- The table refers to soy production farms in South America that have been certified in or before the given year

<table>
<thead>
<tr>
<th>#</th>
<th>Indicator</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1a</td>
<td>Area in IDH projects (in thousands of hectares)</td>
<td>247</td>
<td>265</td>
</tr>
<tr>
<td>1.1b</td>
<td>Protected forest / High Conservation Value Area (in thousands of hectares)</td>
<td>58</td>
<td>84</td>
</tr>
</tbody>
</table>

Source: Annual reports IDH 2012, 2013
Choice of sample is related to IDH projects

A sample is chosen from IDH projects in Brazil and Argentina, based on availability of data and willingness to cooperate, and with a focus on risk-prone areas in order to include apparent sustainability issues. This sample forms the basis for the production indicators. Not all farms have supplied data yet.
<table>
<thead>
<tr>
<th>#</th>
<th>Indicator</th>
<th>2012</th>
<th>2013</th>
<th>I-2014 (prelim.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>Total area (thousands of hectares) of RTRS certification</td>
<td>183</td>
<td>211</td>
<td>241</td>
</tr>
<tr>
<td>1.3</td>
<td>Total production (tonnes x 1000) of RTRS soy</td>
<td>489</td>
<td>541</td>
<td>614</td>
</tr>
<tr>
<td>1.4</td>
<td>Average yield per farm (kg/hectare) across</td>
<td>2.68</td>
<td>2.56</td>
<td>2.55</td>
</tr>
<tr>
<td>1.5</td>
<td># of farmers participating</td>
<td>106</td>
<td>115</td>
<td>115</td>
</tr>
</tbody>
</table>

- Total area in the sample increased to over 200,000 hectares in 2013 and is still growing
- Total soy production exceeds 0.5 million tonnes
Map of farms in IDH projects in Brazil and Argentina included in the sample

Each dot (Brazil) and droplet (Argentina) represents a farm

Farms tend to be concentrated in clusters
IDH projects in priority areas in sample

• Priority areas defined within IDH sample.

• Priority areas are risk-prone areas in terms of biodiversity, forest degradation, and social issues.

<table>
<thead>
<tr>
<th>#</th>
<th>Indicator</th>
<th>2012</th>
<th>2013</th>
<th>I-2014 prelim.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td># of hectares (in thousands) of RTRS certification directly included in IDH projects in priority areas</td>
<td>136</td>
<td>203</td>
<td>228</td>
</tr>
<tr>
<td>1.3</td>
<td>Total production (tonnes x 1000) of RTRS soy produced across IDH projects in priority areas</td>
<td>346</td>
<td>519</td>
<td>581</td>
</tr>
<tr>
<td>1.4</td>
<td>Average yield per farm (kg/hectares) across IDH projects in priority areas</td>
<td>2.54</td>
<td>2.56</td>
<td>2.55</td>
</tr>
<tr>
<td>1.5</td>
<td># of farmers participating in IDH projects in priority areas</td>
<td>104</td>
<td>104</td>
<td>86</td>
</tr>
</tbody>
</table>

• In 2013 more than 95% of the sample was located in risk-prone areas.
### RTRS soy production worldwide

A few slides on RTRS soy production are given as a reference

<table>
<thead>
<tr>
<th></th>
<th>Indicator</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.31</strong></td>
<td># of RTRS farmers</td>
<td>-</td>
<td>17,026</td>
</tr>
<tr>
<td><strong>1.32</strong></td>
<td># of RTRS farmers as a % of total farmers</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>1.33</strong></td>
<td># of RTRS-certified hectares (in thousands)</td>
<td>346</td>
<td>433</td>
</tr>
<tr>
<td><strong>1.34</strong></td>
<td># of RTRS-certified hectares as a % of total soy area</td>
<td>0.33%</td>
<td>0.39%</td>
</tr>
<tr>
<td><strong>1.35</strong></td>
<td>Total production RTRS-certified soy (tonnes x 1000)</td>
<td>995</td>
<td>1,127</td>
</tr>
<tr>
<td><strong>1.36</strong></td>
<td>Total RTRS-certified production as a % of world soy production</td>
<td>0.41%</td>
<td>0.41%</td>
</tr>
<tr>
<td><strong>1.37</strong></td>
<td>Average yield per ha of RTRS soy (tonnes/hectare)</td>
<td>2.87</td>
<td>2.60</td>
</tr>
</tbody>
</table>

The sample represents about half of the worldwide RTRS soy production.
### RTRS production in South America (2013)

<table>
<thead>
<tr>
<th>#</th>
<th>Indicator</th>
<th>Brazil</th>
<th>Argentina</th>
<th>Paraguay</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.24</td>
<td># of soy farmers producing RTRS</td>
<td>224</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>1.25</td>
<td># RTRS farmers as a % of total # of soy farmers</td>
<td>NA</td>
<td>NA</td>
<td>0.01%</td>
</tr>
<tr>
<td>1.26</td>
<td># hectares RTRS soy (in thousands)</td>
<td>270</td>
<td>164</td>
<td>19</td>
</tr>
<tr>
<td>1.27</td>
<td>Area RTRS as a % of total of soy area</td>
<td>0.97%</td>
<td>0.85%</td>
<td>0.61%</td>
</tr>
<tr>
<td>1.28</td>
<td>Total production of RTRS (tonnes x 1000)</td>
<td>801</td>
<td>231</td>
<td>33</td>
</tr>
<tr>
<td>1.29</td>
<td>RTRS production as a % of total soy production</td>
<td>0.98%</td>
<td>0.47%</td>
<td>0.40%</td>
</tr>
<tr>
<td>1.30</td>
<td>Average yield per ha of RTRS soy (tonnes/hectares)</td>
<td>2.96</td>
<td>2.54</td>
<td>2.60</td>
</tr>
</tbody>
</table>

NA: Not available

70% of the total RTRS soy is produced in Brazil

Research question 2: Production
## RTRS in priority areas (2013)

<table>
<thead>
<tr>
<th>#</th>
<th>Indicator</th>
<th>Mato Grosso (mid/north) (Brazil)</th>
<th>Mapitoba (Brazil)</th>
<th>Chaco (Arg.)</th>
<th>Paraguay</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.18</strong></td>
<td># of soy farmers producing RTRS in priority areas</td>
<td>57</td>
<td>2</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td><strong>1.19</strong></td>
<td># of soy farmers producing RTRS in priority areas as a % of total # of soy farmers</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>0.01%</td>
</tr>
<tr>
<td><strong>1.20</strong></td>
<td># of hectares (in thousands)</td>
<td>231</td>
<td>26</td>
<td>46</td>
<td>19</td>
</tr>
<tr>
<td><strong>1.21</strong></td>
<td>Hectares of RTRS production in priority areas as a % of total soy area</td>
<td>2.96%*</td>
<td>0.40%</td>
<td>NA</td>
<td>0.61%</td>
</tr>
<tr>
<td><strong>1.22</strong></td>
<td>Total production (tonnes x 1000)</td>
<td>681</td>
<td>80</td>
<td>57</td>
<td>33</td>
</tr>
<tr>
<td><strong>1.23</strong></td>
<td>Average yield per farm (kg/hectares) in priority areas</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

NA: Not available
* No data yet available for Mato Grosso mid/north, only for TOTAL Mato Grosso soy area. Actual area will be lower, leading to a higher percentage
Environmental Sustainability

Two kinds of indicators are defined: protected forest and pesticides
Protected areas

Protected forest

of which above legal requirement (estimated)

Restored area and compensated elsewhere

84,000 ha

± 11%

not available
# Pest and Pesticide Management

## Indicator

<table>
<thead>
<tr>
<th>#</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Quantity (kg/hectares) of active ingredients of pesticide/herbicides used on farms in IDH projects in priority areas</td>
</tr>
<tr>
<td>5.9</td>
<td># of registered Health and Safety accidents related to agrochemical use per year on farms in IDH projects</td>
</tr>
</tbody>
</table>

Data collected/provided for these indicators were limited; improvements being made for inclusion in data collection on 2014 production
Social Sustainability

Indicators on staff, relationship to the local community and compliance with legislation and standards are defined.
<table>
<thead>
<tr>
<th>#</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td># of persons from local community employed (year-round) on certified farms in IDH projects</td>
</tr>
<tr>
<td>6.2</td>
<td># of persons from local community employed (year-round) on certified farms in IDH projects, as a % of total staff</td>
</tr>
<tr>
<td>6.3</td>
<td>Quality of dialogue &amp; communication, response to complaints, between farms in IDH project regions and local community organisations, e.g., citizen organisation, farmer groups, associations and local NGOs (annual sample)</td>
</tr>
<tr>
<td>6.4</td>
<td>Improvements made by farms in IDH projects to achieve compliance with legislation and standards, from 1 year before certification</td>
</tr>
<tr>
<td>6.5</td>
<td>Improvements made by farms in IDH projects to achieve compliance with legislation and standards, from 1 year before certification, in USD investments/year</td>
</tr>
<tr>
<td>6.6</td>
<td># of employees trained and educated professionally, made possible by IDH project</td>
</tr>
</tbody>
</table>

Data collected/provided for these indicators were limited; improvements being made for inclusion in data collection on 2014 production.
Result of research question 2

Does the transition to responsible soy in the Dutch animal feed and consumer goods sectors improve the sustainability of soy production?

- Not yet possible to give a firm answer
- Data collection needs time to get going
  - Overview 2012+2013 given here
  - Progress data 2014 (collected in 2015) both improved quality and quantity
- Story-telling is recommended as a way to add insight to the quantitative analysis
Research question 3 - Demand

How should the acceptance of responsible soy on the Dutch market be measured?
5 groups of purchase indicators

A. Support (membership of RTRS)
B. Quantification
C. Sector ambitions
D. Industry standards
E. Retail and supply chain agreements
A. Support: Dutch members of RTRS

Also some internationally active companies and organisations with Dutch links, such as Shell, Rabobank, WWF and Control Unions.

<table>
<thead>
<tr>
<th>Membership</th>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies</td>
<td></td>
<td>23</td>
<td>25</td>
<td>29</td>
</tr>
<tr>
<td>NGOs &amp; related</td>
<td></td>
<td>5</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>28</td>
<td>30</td>
<td>35</td>
</tr>
</tbody>
</table>

Research question 3: Demand
A. Support

Indicative market share of Dutch RTRS members (companies, rounded numbers)

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soy trade</td>
<td>95%</td>
<td>95%</td>
<td>95%</td>
</tr>
<tr>
<td>Feed production</td>
<td>55%</td>
<td>55%</td>
<td>55%</td>
</tr>
<tr>
<td>Eggs</td>
<td>35%</td>
<td>35%</td>
<td>35%</td>
</tr>
<tr>
<td>Dairy industry</td>
<td>85%</td>
<td>85%</td>
<td>90%</td>
</tr>
<tr>
<td>Broiler meat</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Pork</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Supermarkets</td>
<td>65%</td>
<td>65%</td>
<td>85%</td>
</tr>
</tbody>
</table>

Source: LEI estimates

Retail, food, oil and feed industry also represented by sector organisations; these are excluded in the market shares above
RTRS Dutch Members and Suppliers to the Dutch market (1)

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>First year of membership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agrifirm</td>
<td>Feed</td>
<td>2008</td>
</tr>
<tr>
<td>AkzoNobel</td>
<td>Oil (industry)</td>
<td>2009</td>
</tr>
<tr>
<td>Amsterdam Capital Trading BV</td>
<td>Trade</td>
<td>2007</td>
</tr>
<tr>
<td>Archer Daniels Midland Company (Brazil)</td>
<td>Trade</td>
<td>2007</td>
</tr>
<tr>
<td>Bunge Limited (US)</td>
<td>Trade</td>
<td>2007</td>
</tr>
<tr>
<td>CARGILL Inc. (Brazil)</td>
<td>Trade</td>
<td>2007</td>
</tr>
<tr>
<td>C.I.V. Superunie B.A.</td>
<td>Retail</td>
<td>2012</td>
</tr>
<tr>
<td>CBL - Dutch Food Retail Association</td>
<td>Retail</td>
<td>2010</td>
</tr>
<tr>
<td>CEFETRA GROUP</td>
<td>Trade</td>
<td>2007</td>
</tr>
<tr>
<td>Cono Cheesemakers</td>
<td>Dairy</td>
<td>2012</td>
</tr>
<tr>
<td>Encko</td>
<td>Food products</td>
<td>2011</td>
</tr>
<tr>
<td>ForFarmers</td>
<td>Feed</td>
<td>2010</td>
</tr>
<tr>
<td>FrieslandCampina</td>
<td>Dairy</td>
<td>2007</td>
</tr>
<tr>
<td>Gebr Van Beek Group</td>
<td>Egg processing</td>
<td>2009</td>
</tr>
<tr>
<td>GLENCORE GRAIN BV</td>
<td>Trade</td>
<td>2007</td>
</tr>
<tr>
<td>GMP+ International</td>
<td>Certification</td>
<td>2012</td>
</tr>
<tr>
<td>GROAN</td>
<td>Trade</td>
<td>2014</td>
</tr>
</tbody>
</table>

Source: RTRS, personal communication 2014
# RTRS Dutch Members and Suppliers to the Dutch market (2)

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>First year of membership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gruppo Andre Maggi (Brazil)</td>
<td>Trade</td>
<td>2007</td>
</tr>
<tr>
<td>IDH - Dutch Sustainable Trade Initiative</td>
<td>NGO</td>
<td>2009</td>
</tr>
<tr>
<td>JUMBO Supermarkten B.V.</td>
<td>Retail</td>
<td>2014</td>
</tr>
<tr>
<td>KLM Royal Dutch Airlines</td>
<td>Catering</td>
<td>2013</td>
</tr>
<tr>
<td>Louis Dreyfus Commodities</td>
<td>Trade</td>
<td>2009</td>
</tr>
<tr>
<td>Marfo BV</td>
<td>Food products / catering</td>
<td>2014</td>
</tr>
<tr>
<td>MVO</td>
<td>Oil (industry)</td>
<td>2007</td>
</tr>
<tr>
<td>Natuur &amp; Millieu</td>
<td>NGO</td>
<td>2012</td>
</tr>
<tr>
<td>NEVEI</td>
<td>Feed</td>
<td>2007</td>
</tr>
<tr>
<td>Nidera Handelscompagnie BV</td>
<td>Trade</td>
<td>2009</td>
</tr>
<tr>
<td>NUTRECO</td>
<td>Feed</td>
<td>2007</td>
</tr>
<tr>
<td>Responsible Bizz</td>
<td>Consultancy</td>
<td>2014</td>
</tr>
<tr>
<td>ROYAL AHO HD</td>
<td>Retail</td>
<td>2007</td>
</tr>
<tr>
<td>Schouten Europe B.V.</td>
<td>Trade</td>
<td>2013</td>
</tr>
<tr>
<td>Solidaridad</td>
<td>NGO</td>
<td>2007</td>
</tr>
<tr>
<td>Storteboom Group B.V.</td>
<td>Meat industry</td>
<td>2009</td>
</tr>
<tr>
<td>UNILEVER</td>
<td>Food products</td>
<td>2007</td>
</tr>
<tr>
<td>VION NV</td>
<td>Meat industry</td>
<td>2007</td>
</tr>
</tbody>
</table>

Source: RTRS, personal communication 2014
B. Quantification

Soy purchased by Stichting Ketentransitie and private buyers

<table>
<thead>
<tr>
<th>#</th>
<th>Indicator</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.2</td>
<td>Total purchase of RTRS soy in tonnes/year</td>
<td>314,880</td>
<td>417,250</td>
</tr>
<tr>
<td>7.3</td>
<td>Share (%) of total soy purchase</td>
<td>18%</td>
<td>23%</td>
</tr>
<tr>
<td>7.4</td>
<td>Total responsible soy via Book &amp; Claim(^a) (credits) in tonnes/yr</td>
<td>230,919</td>
<td>395,250</td>
</tr>
<tr>
<td>7.5</td>
<td>Total responsible soy via Mass Balance(^a) in tonnes/year</td>
<td>83,961</td>
<td>22,000</td>
</tr>
<tr>
<td>7.6</td>
<td>Total purchase of responsible soy oil in tonnes/year</td>
<td>20,000</td>
<td>40,000</td>
</tr>
<tr>
<td>7.7</td>
<td>... of which via Book &amp; Claim (credits)</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>7.8</td>
<td>... of which via Mass Balance</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Responsible oil volumes account for 25% and 50% of the soy food oil demand in 2012 and 2013 respectively in the Netherlands
## B. Quantification

### Purchase of certified soy in the Netherlands for animal feed (in tonnes)

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTRS Book &amp; Claim</td>
<td>87,528</td>
<td>74,250</td>
<td>17,500</td>
</tr>
<tr>
<td>RTRS “Area Mass Balance” a)</td>
<td>143,391</td>
<td>321,000</td>
<td>229,000</td>
</tr>
<tr>
<td>RTRS Mass Balance</td>
<td>83,961</td>
<td>22,000</td>
<td>6,000</td>
</tr>
<tr>
<td>Total RTRS</td>
<td>314,880</td>
<td>417,250</td>
<td>252,500</td>
</tr>
<tr>
<td>% of Domestic demand</td>
<td>17%</td>
<td>23%</td>
<td>14%</td>
</tr>
<tr>
<td>CRS b) (“Area Mass Balance”)</td>
<td>0</td>
<td>128,000</td>
<td>250,000</td>
</tr>
<tr>
<td>ProTerra c)</td>
<td></td>
<td>110,200</td>
<td></td>
</tr>
<tr>
<td>Other (EcoSocial, Non-GM, Organic and FSP) c)</td>
<td>41,900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Certified Soy for animal feed</td>
<td>711,350</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Footnotes: a) Area mass balance: a book & claim system where the physical product flow and the credits come from the same region; b) CRS is the Certified Responsible Soy Standard of Cefetra; c) Volumes of ProTerra and ‘Other’ according to Sojabarometer 2014

Reduction of RTRS share in 2014 from 23% to 14% due to industry decisions
B. Quantification

Dutch purchase of RTRS soy represented 37% of RTRS soy world production in 2013; therefore direct Dutch link to 183,000 ha through purchase of soy and credits.

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total production RTRS soy (in thousands of tonnes)</td>
<td>995</td>
<td>1,127</td>
<td>1,347</td>
</tr>
<tr>
<td>Total area RTRS soy (in thousands of hectares)</td>
<td>346</td>
<td>494</td>
<td>462</td>
</tr>
<tr>
<td>Dutch purchase of RTRS soy (in thousands of tonnes)</td>
<td>315</td>
<td>417</td>
<td>253</td>
</tr>
<tr>
<td>Dutch share in world RTRS soy uptake</td>
<td>32%</td>
<td>37%</td>
<td>19%</td>
</tr>
</tbody>
</table>

In 2013, Brazil, Argentina and Paraguay were the main RTRS soy producers.

<table>
<thead>
<tr>
<th>Country</th>
<th>Volume</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>70%</td>
<td>55%</td>
</tr>
<tr>
<td>Argentina</td>
<td>20%</td>
<td>33%</td>
</tr>
<tr>
<td>Paraguay</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>7%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Research question 3: Demand
## C. Sector ambitions

<table>
<thead>
<tr>
<th>Sector</th>
<th>Organisation</th>
<th>Goal</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed</td>
<td>Stichting Ketentransitie (SKT)</td>
<td>100% responsible domestic soy use (1.8 million tonnes/year) in 2015</td>
<td>SKT discontinued (according to plan). Ambition pursued by Nevedi.</td>
</tr>
<tr>
<td></td>
<td>Nevedi</td>
<td>Pursued sector ambition (October 2014), effective 2015 For domestic consumption: RTRS (6000,000 tonnes/year) Other soy – lower standard: (1.2 million tonnes/year)</td>
<td>Increasing implementation during 2015. RTRS requirement is a consequence of the retailers agreement for domestic consumption of animal products.</td>
</tr>
<tr>
<td>Feed</td>
<td>FEFAC</td>
<td>The aim is to foster European mainstream market supply for responsibly produced soy. The guidelines are a professional recommendation for interested member associations seeking to enter the market for responsible soy.</td>
<td></td>
</tr>
<tr>
<td>Dairy</td>
<td>Duurzame Zuivelketen (NZO/LTO)</td>
<td>Only RTRS soy for dairy production (480,000 mill. tonnes/year), as of 2015</td>
<td>For 2014 DZK aimed to cover 83% of dairy soy use, based on an assumed volume of 200,000 tons. More recent calculations show higher soy use. From 2015, sustainable soy will be obligatory for each dairy farm, increasing from certificates (2015) to mass balance (2020)</td>
</tr>
</tbody>
</table>
## D. Industry standards

With an eye to responsible soy

<table>
<thead>
<tr>
<th>Standard</th>
<th>Sector</th>
<th>Requirements</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic quality system IKB</td>
<td>Pork, Broiler meat, Eggs and Beef</td>
<td>No soy requirements</td>
<td></td>
</tr>
</tbody>
</table>
| Milieukeur                | Pork, Broiler meat, Eggs and Beef | • Includes soy demands as of July 2014 (pork, eggs, beef) or 2015 (broiler meat)  
• In Milieukeur beef, soy is option of choice | • Market: Eggs €2.8 million in 2013 (1% of Dutch eggs)  
• Meat/ meat products €17.1 million in 2013 (0.3% and growing) |
| Organic                   | Pork, Broiler meat, Eggs and Beef | • Uses feed that contains organic soy, considered to be responsible            | • Market share very limited                                  |

Source of market shares: Bakker (2014)
### Overview of standards in Pork supply chain

<table>
<thead>
<tr>
<th>Standard</th>
<th>Requirements</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milieukeur Varkens</td>
<td>Demands RTRS or equivalent; as of 2015: GMP+</td>
<td>• 1/12/2013: 93 farmers, 210 supermarkets&lt;br&gt;• 1/6/2014: 153 farmers (430,000 animal places), 265 supermarkets (Jumbo and Dekamarkt)</td>
</tr>
<tr>
<td>Beter Leven, as sold by Vion Food Group</td>
<td>No public data available</td>
<td>• Vion purchased 14,000 tons of credits, about 8% of the soy use of Vion’s slaughter pigs&lt;br&gt;• Albert Heijn and Plus</td>
</tr>
</tbody>
</table>

**2014: Estimated 2.0-2.5 million pigs/year are given responsible soy: ± 15% of slaughter pigs in the Netherlands**

Research question 3: Demand
Plukon said to have used 50% responsible soy in 2013*; probably mainly ProTerra and probably for the German market

* Balkema et al., 2014
The Milieukeur standard for beef exists but is not used.

Domestic consumption is based on old dairy cows, domestic production (Argentina, Ireland), and import. For the old dairy cows, soy use was implemented in the dairy chain and limited to a value share of milk production until 2014. Domestic production is very limited and partly exported. Import products' soy source is not known.

The market share of responsible soy is probably zero. As of 2015, old dairy cows (major share of beef consumption) will be fed responsible soy. However, veal has no action yet.
Milieukeur Eieren

- Demands RTRS or equivalent (as of 2015: GMP+)
- 1/12/2013: 3 layer farms (Rondeel)
  - Demands ProTerra (non-GM, segregated)
  - Production 27 million eggs/year
- Sales via 850 supermarkets (Albert Heijn)
- Market share: 0.3% of Dutch egg production
- Arla: project with Solidaridad and credits
- Cono: supports producers in India (FSP), credits
- Friesland Campina: supported producers in India (Soypsi), credits
- Market share RTRS compliance: 100%
- Sector ambition (Duurzame Zuivelketen) as of 2015 100% RTRS for dairy production. In the period 2015 to 2020 credits to be stepwise replaced by Mass Balance. Hulls are included.
- No sector standards
- Unilever has its own sustainability programme, which includes attention to responsible soy
GMP+’s Feed Safety Assurance is the quality standard for animal feed
- Required for producers under IKB quality systems
- No requirement for responsible soy

GMP+ initiated the Feed Responsibility Assurance scheme, including a responsible soy module
- This standard is referred to in the purchase requirements for Duurzaam melkveevoeder, Milieukeur and Fefac roadmap to responsible soy
- Varken van Morgen & Kip van morgen refer to it, but have not elaborated on a GMP+ standard yet
Purchase indicator E. Retail and supply chain agreements

- All supermarket organisations in the Netherlands have agreed to adhere to the goal of using 100% responsible soy in the production of animal products by 2015. This holds for imported products as well.

- Retailers Albert Heijn, Jumbo, C1000, Deen, Dekamarkt and MCD/Boon refer to this on their website, and/or refer to the CBL Agreement to purchase only responsible pork and poultry meat in the future (from 2015), where 100% responsible soy is required. Market share of these retailers is about 60% (2012).

- None of the other supermarket organisations (Plus, Jan Linders, Dirk, Hoogvliet, Emté, Vomar, Lidl, Boni, Nettorama, Spar, Aldi) refer to either Agreement, but are required to comply with it as CBL members.

Based on Rank-a-Brand
Purchase indicator E. Retail and supply chain agreements

- Supply chain agreements for Pork and Broiler meat, via CBL
  - Using GlobalGAP with a national add-on as retailers’ industry standard

- In addition to animal products, Albert Heijn entered an agreement with WWF NL to use only 100% RTRS-certified soy in all its own-label products, as of 1 January 2016.
As of 2014, Jumbo and Deka sell Milieukeur Pork

Albert Heijn sells Beter Leven pork including soy requirement

As of 2015, all Dutch retailers should comply with the Global Gap standard for pork ‘Varkensvlees van morgen’. This requires the use of responsible soy in pork production. In practice, 2015 is a transition year, resulting in sales as of 2016. Criticism of the parallel ‘Kip van Morgen’ standard by the Anti-Cartel Authority has brought the joint approach to a standstill. However, it is expected that individual retailers will continue the transition to sole use of this standard.

### Indicator

<table>
<thead>
<tr>
<th>#</th>
<th>Retailer Standard Pork</th>
</tr>
</thead>
<tbody>
<tr>
<td>7,9</td>
<td></td>
</tr>
</tbody>
</table>
In 2014, no retailer sells broiler meat according to the Milieukeur standard.

All the Dutch retailers agreed to adhere to the transition to the GlobalGap standard ‘Kip van Morgen’; in this standard responsible soy is used in broiler production. Start date is not known yet. Full implementation may take several years.

Criticism of ‘Kip van Morgen’ standard by the Anti-Cartel agency has brought the joint approach to a standstill. However, it is expected that individual retailers will continue the transition to sole use of this standard.

A major part of the range of Albert Heijn (Hollandse Kip) and Jumbo (Nieuwe Standaardkip) already adheres to the Kip van Morgen standard. The aim is to comply fully from 2016.
No known retailer standards for beef production with responsible soy.

Milieukeur Rundvlees exists as a producers’ standard, but it is not implemented by producers.

Beef sales in Dutch supermarkets are partially based on import, so a domestic standard would not cover the entire market. Major % of consumption is based on old dairy cows, which are partially fed responsible soy.

Domestic beef production needs to consider the Dutch sector ambition of 100% responsible soy as of 2015.

Veal for domestic consumption is produced entirely in the Netherlands. Producers must therefore comply with the Dutch feed industry standard of 100% responsible soy as of 2015. Veal calves for sales in the Dutch retail market must be fed RTRS-certified soy.
In 2014, Rondeel eggs, available at Albert Heijn are produced according to the Milieukeur standard. ProTerra soy in used in the production.

No other known retailer standards for sustainable soy in egg production.
No known retailer standard for responsible soy for dairy products (milk, cheese). This is also because the industry has set up its own DZK standard (including soy demands)

No known retailer standard for responsible soy in Margarine
Result of research question 3

How should the acceptance of responsible soy on the Dutch market be measured?

● A combination of analysing the industry support, sector ambitions, industry standards and retail and supply chain agreements provide valuable insights into results of the transition to responsible soy in consumer products.

● Domestic demand is increasing.
Concise overview of sources

Data from project partners

IDH Annual reports 2012 and 2013

Websites:
RTRS - http://www.responsiblesoy.org/
Stichting Milieukeur – www.smk.nl
GMP+ - www.gmpplus.org
Rank-a-Brand – www.rankabrand.nl
Sites of various retailers and companies
For more information:
Robert Hoste
robert.hoste@wur.nl
+31-317-484654
www.wageningenUR.nl/en/lei

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