
Möglichkeiten und Grenzen der Datennutzung in der Landtechnik – Wo hakt es?

*Possibilities and limits of data use in agricultural technology –
what's the problem?*

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TH-Köln, Hörsaal H4

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Possibilities and limits of data use in agricultural technology – what's the problem?



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In the shoes of a dairy farmer...

What challenges are dairy farmers facing?

Dairy Value Chain

Complex, fragmented and under a lot of pressure!

Labor/work efficiency



Farm profitability



Animal welfare



Food safety



Ag policy's



Veganism/
social drivers



Milk
substitutes



FARMER

DAIRY
PROCESSOR

RETAILER/
DISTRIBUTOR

CONSUMER/
END USER

Mega farming



Digitalization on farm



New technologies



Value chain digitalization



Regulatory



- Consumers are driving the agenda
- Retailers are pushing demands to the bottom of the chain.
- Environmental sustainability highest focus
- Biggest potential on reducing GHG emissions are on dairy farmers operations.

*Challenging
environment for
Dairy Farmers*

1

Business requirements

Government
Processors
Retailers
Consumers

Very Complex Operations

Utilize multiple IT systems that do not interact with each other

2

4

Sustainability Drives Cost

Is a common perception

Operational Silos

Between Field and Herd data

3

Consumer driven environmental accountability:

Examples of this are accelerating across various fronts

1

Business requirement:

- Government
- Processors
- Retailers
- Consumers

Governments with recently announced punitive sustainability programs

- EU Green Deal mandates fertilizer & nutrient loss reductions by 2030
- California reduction by 40% by 2030
- Netherlands will eliminate 1/3rd of dairy farms by 2030
- New Zealand will begin taxing dairy producers for cow emissions

Dairy Processors applying pressure on producers for sustainability improvements

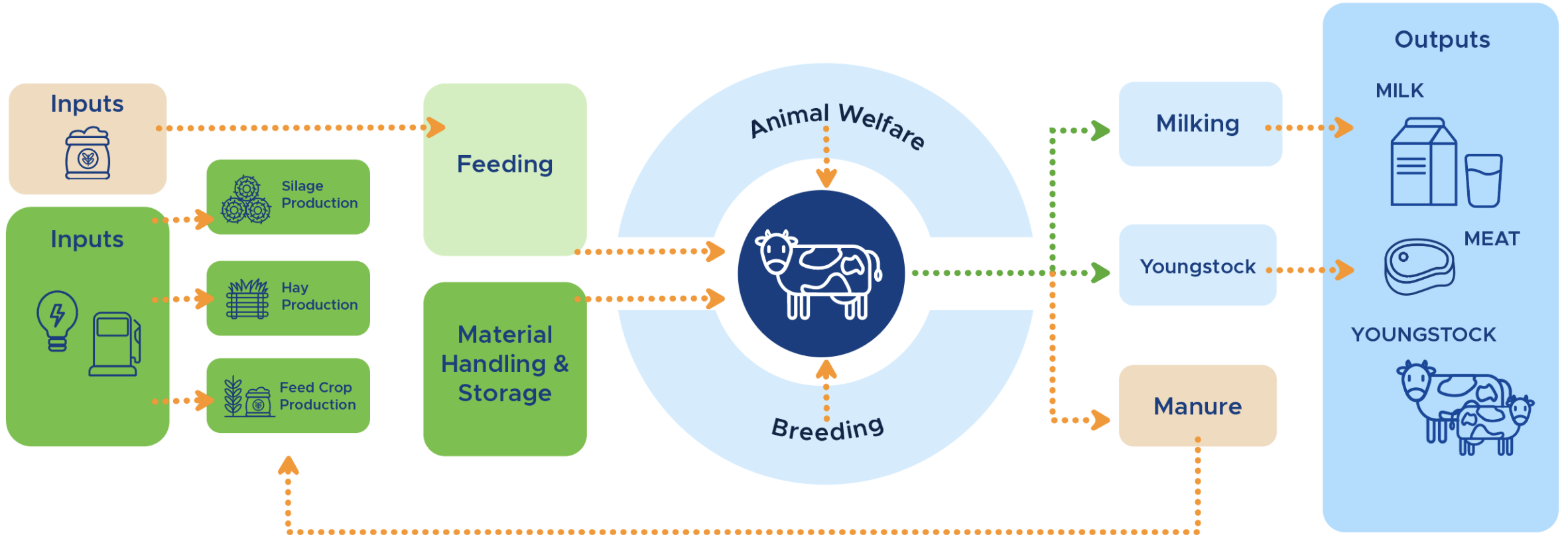
- Heinz-Kraft key pillar of zero emission goal is sustainable ag sourcing
- Nestle 100% of key ingredients produced sustainably by 2030
- Arla paying 500M Euros annually to sustainable producers

Food Retailers applying pressure on Processors for sustainability improvements or alternatives to dairy

- Walmart driving regenerative ag practices into their supply base
- Starbucks commits to sustainably sourced Dairy and oat milk

Dairy Production

Combining animal and crop score cards for a holistic view



DeLaval and John Deere partnership



To improve sustainability in dairy farming



- **DeLaval** – global leader in dairy operations equipment and digital services
- **John Deere** – global leader in agricultural machinery and digital services
- A collaboration to create a holistic end-to-end view
- Partnership of companies with complementary data, know how and willingness to settle the ground for this initiative

MILK

SUSTAINABILITY CENTER
POWERED BY JOHN DEERE AND DELAVAL



Milk Sustainability Center



An online platform for dairy farmers

Cloud-based solution for desktop and mobile devices

Automatic data flows for most popular field and milking equipment

Available for all dairy farmers - independent from equipment brands



Farmers can invite others to view their data in MSC

Benchmarking and simulation to find improvement areas and make decisions.

Recommendations to optimize profit and minimize emissions

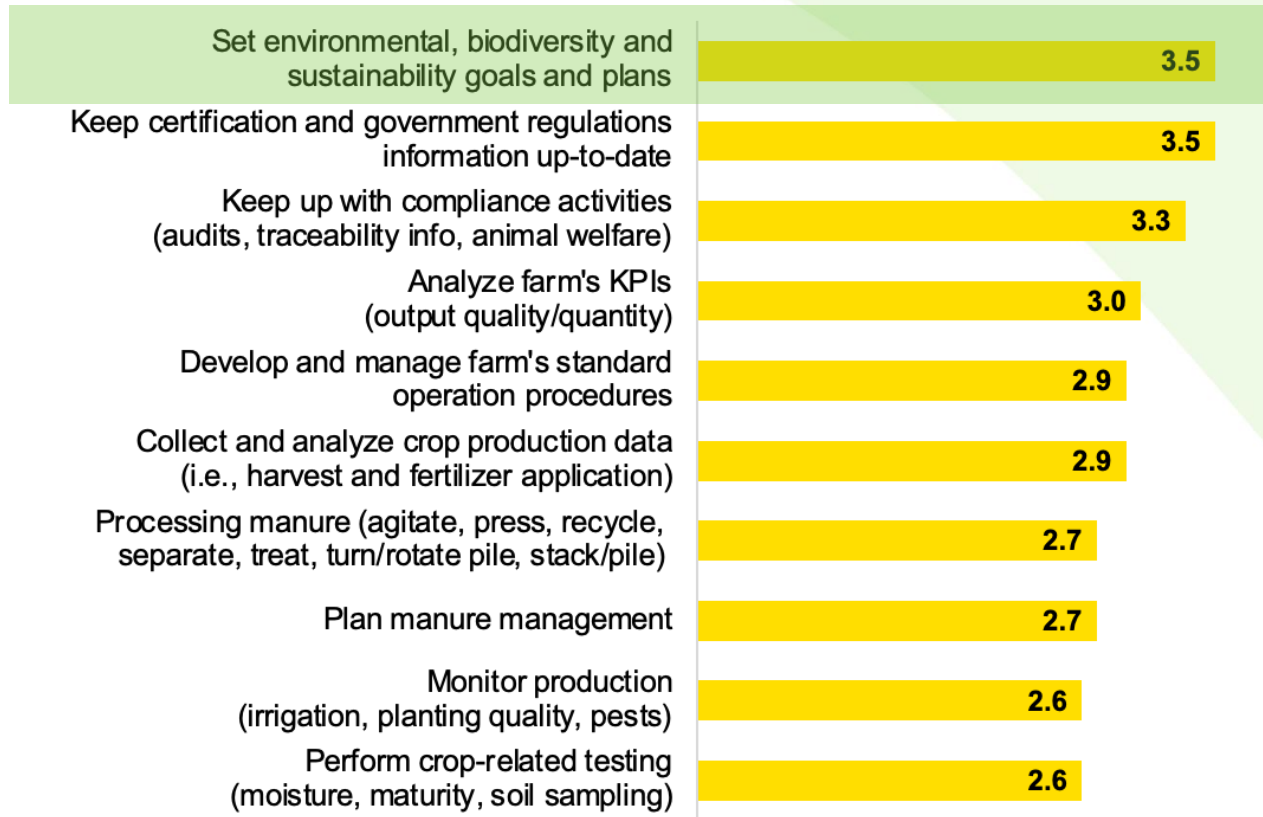
DDW Dairy Data Warehouse BV, combines the farm data (field and herd) and runs MSC platform

To provide the necessary insights, partnering **MUST** occur:

....so why NOW?

Top 10 Most Frustrating Jobs (NA)

(Mean score, 1 to 7 scale)

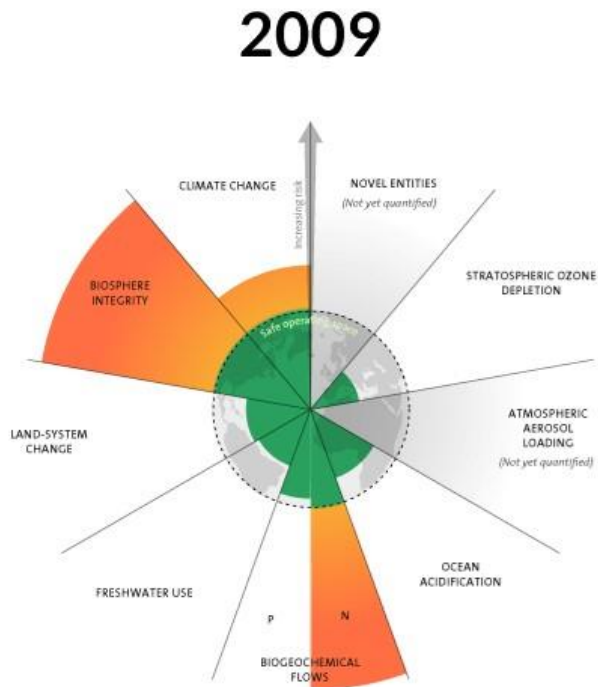


According to customers, their ability to do this efficiently is the **number one frustration point** in their operations today

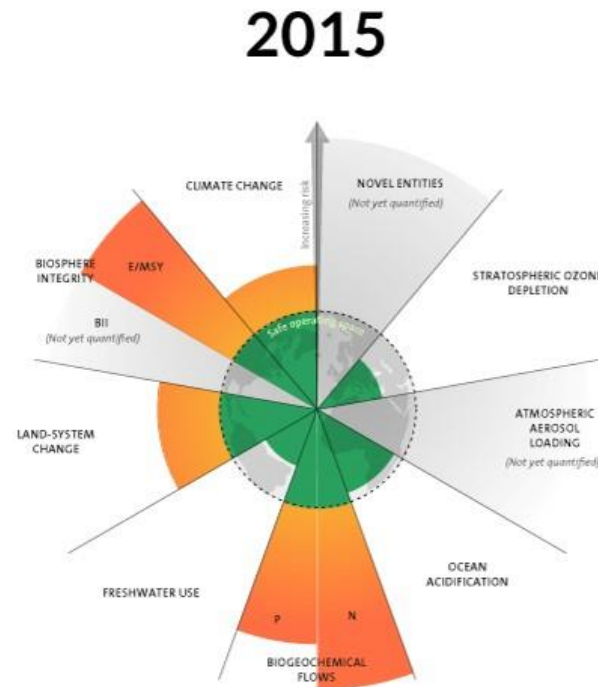
Source: Internal Market Research Study John Deere (North America and Europe), 2023

The planetary boundaries framework

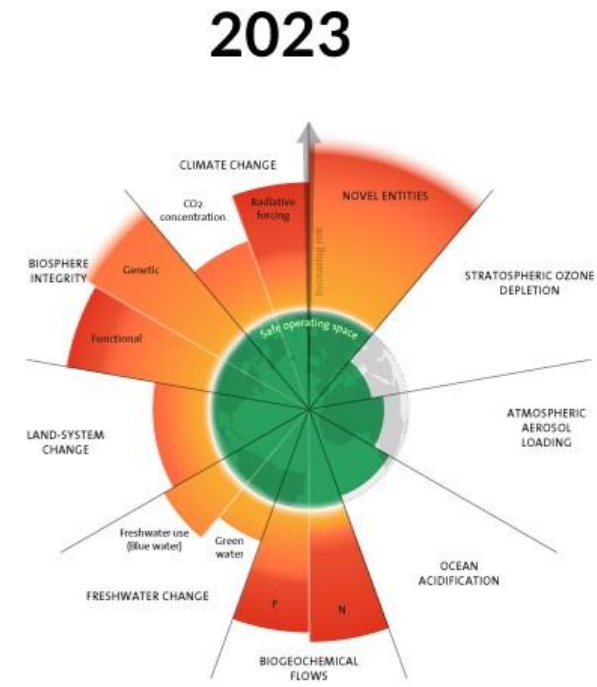
By Stockholm Resilience Center



3 boundaries crossed



4 boundaries crossed



6 boundaries crossed

Source: September 2023, Stockholm Resilience Center / Stockholm University

Milk Sustainability Center

Customer Offer

Free subscription

Summer 2024

- NUE and CO2e on farm, barn, and field level
- Partially automated data population into the tool
- Basic benchmarking

Premium subscription

Summer 2025

- Peer benchmarking
- Areas for improvements identification
- Actionable recommendations
- Data-driven decision support
- Further automation in data collection
- “What if” planning and modeling – better understanding of inter-dependability across field and barn

Work in progress: the final split between Free and Premium subscriptions might change



Ein wenig Werbung in eigener Sache ... und für den VDI 😊

Agriculture Technology 2030 - Technik für eine zukunftsfähige Tierhaltung (Teil 2)

Auf einen Blick

Ausgabedatum

2023-10

Typ

VDI-Roadmap

Herausgeber

Verein Deutscher Ingenieure e.V.

Beschreibung

Das Ziel der Roadmap ist es, die Bereiche aufzuzeigen, in denen die Technik und Digitalisierung einen wesentlichen Beitrag leisten können, gesellschaftliche und landwirtschaftliche Anforderungen an die Tierhaltung zu unterstützen. Es werden Forschungsfelder exemplarisch für die Bereiche der Geflügel-, der Schweine- und der Rinderhaltung vorgestellt. Mit der Roadmap will der VDI allerdings nicht nur Handlungsbedarfe im Bereich der Landwirtschaft bzw. Landtechnik ansprechen, sondern auch den Dialog mit der Politik und der Gesellschaft anregen.



Thank you!
For more info:

