Alfalfa to get back into planetary boundaries

2025 world alfalfa congress
FRANCE REIMS-CHÂLONS

Hay & Forage quality monitoring from Field to Feed

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Quanturi Oy

Quanturi

HAYTECH

FROM 03 › TO 06 nov. 2025


Quanturi

Hay composition at time of storage

Composition stacks	CP (%DM)	NDF (%DM)	TDN (%DM)
Analysis at storage	10.9	60.68	50.8

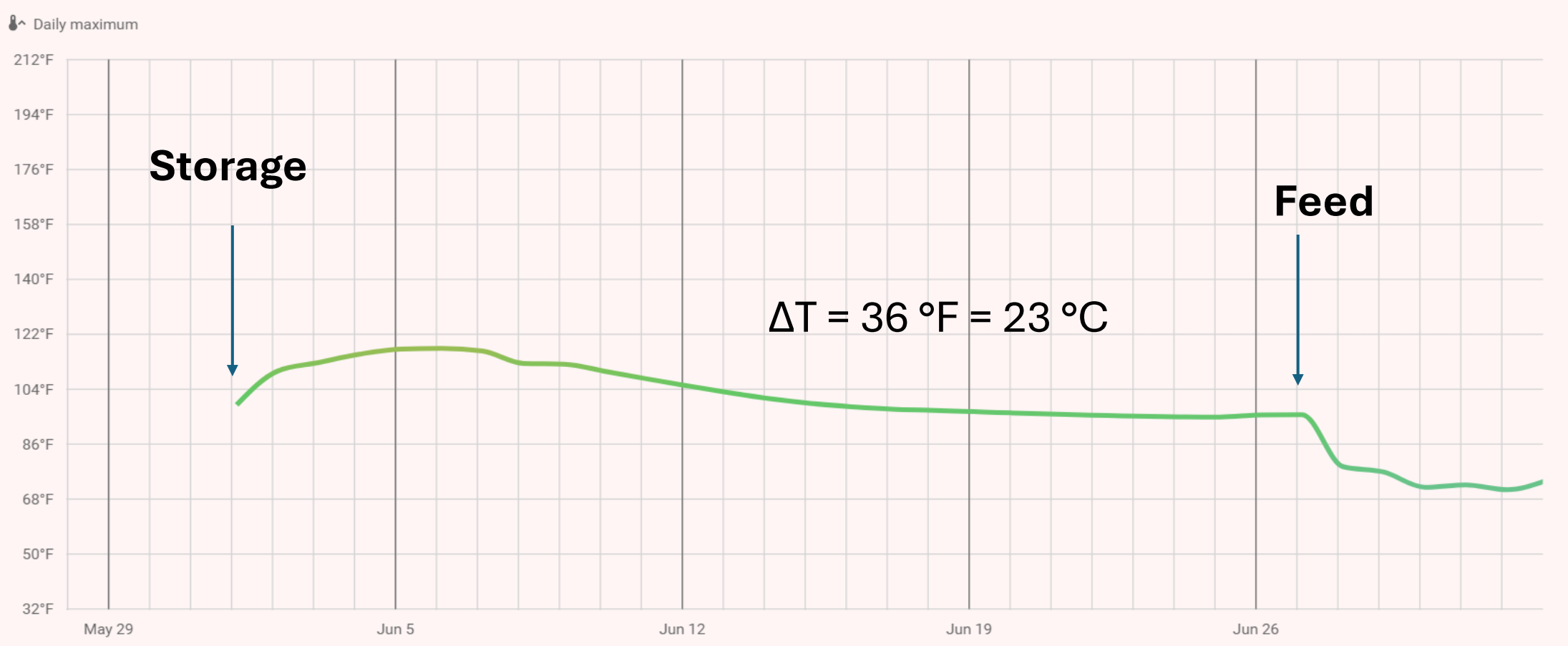
Hay composition at time of feed

Composition stacks	CP (%DM)	NDF (%DM)	TDN (%DM)
Analysis at storage	10.9	60.68	50.8
Real value at time of feed	7.5	66.52	46.5
Change during storage	-30%	+9%	-8%

Feed	Feeding Ration (Lb.)
Corn silage	33
Grass silage	44
Hay	6.6
Barley	4.1
Corn (grain)	4.4
Canola meal	2.2
Soy meal	4.4
Total	98.9

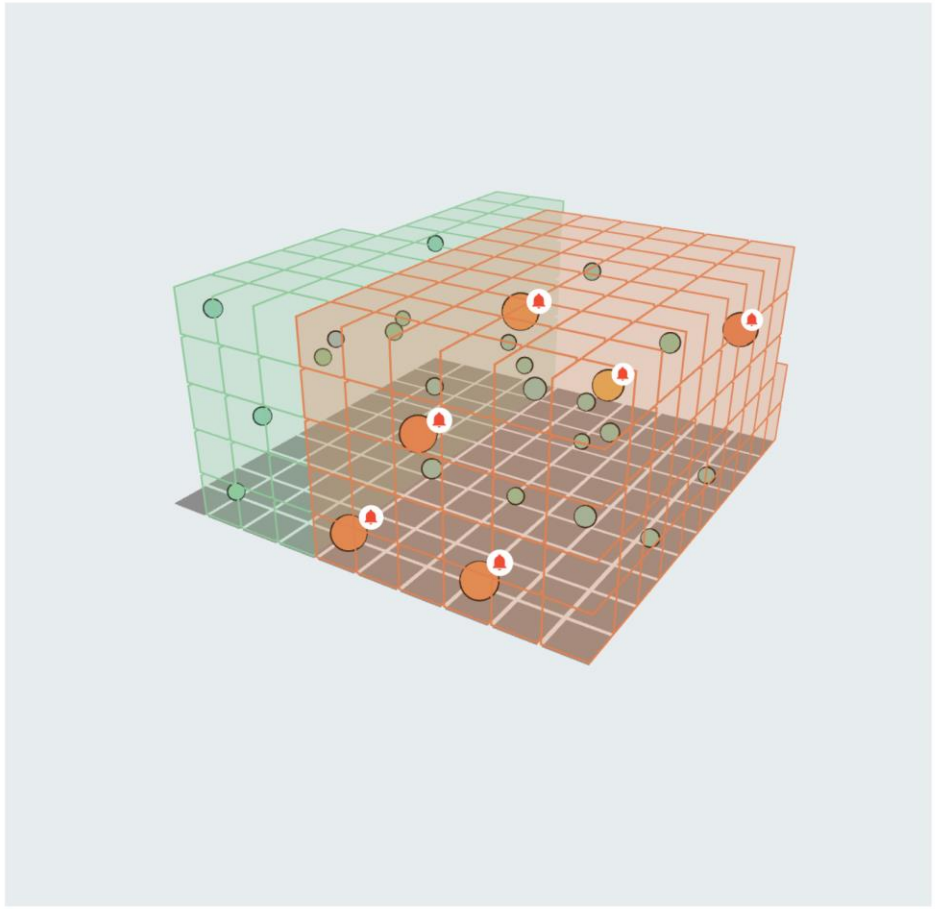
Decrease of -5 Lb. of milk/cow/day
Because of incorrect knowledge of hay quality
Loss: -$1.14 /cow/day

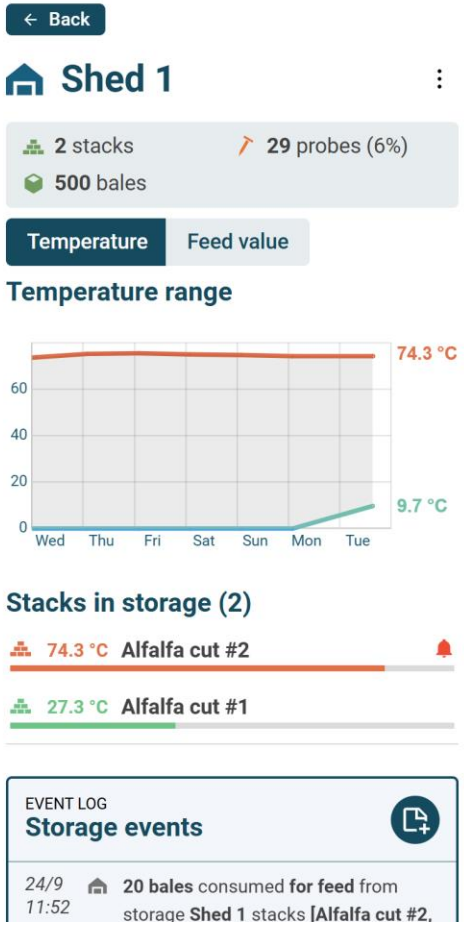
Fermentation impacts hay quality



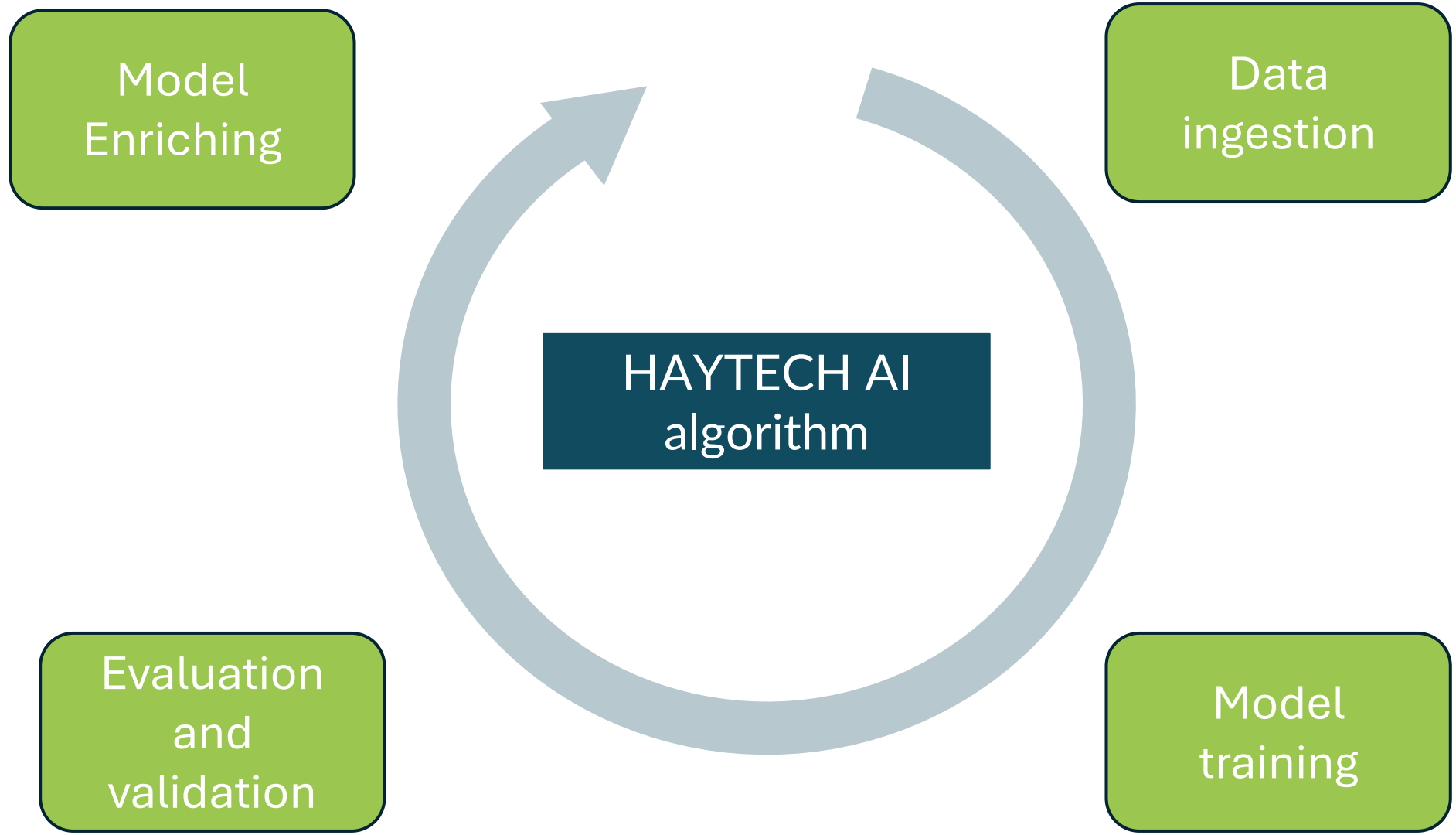
Hay & forage monitoring
from field to feed

Preventing hay fires



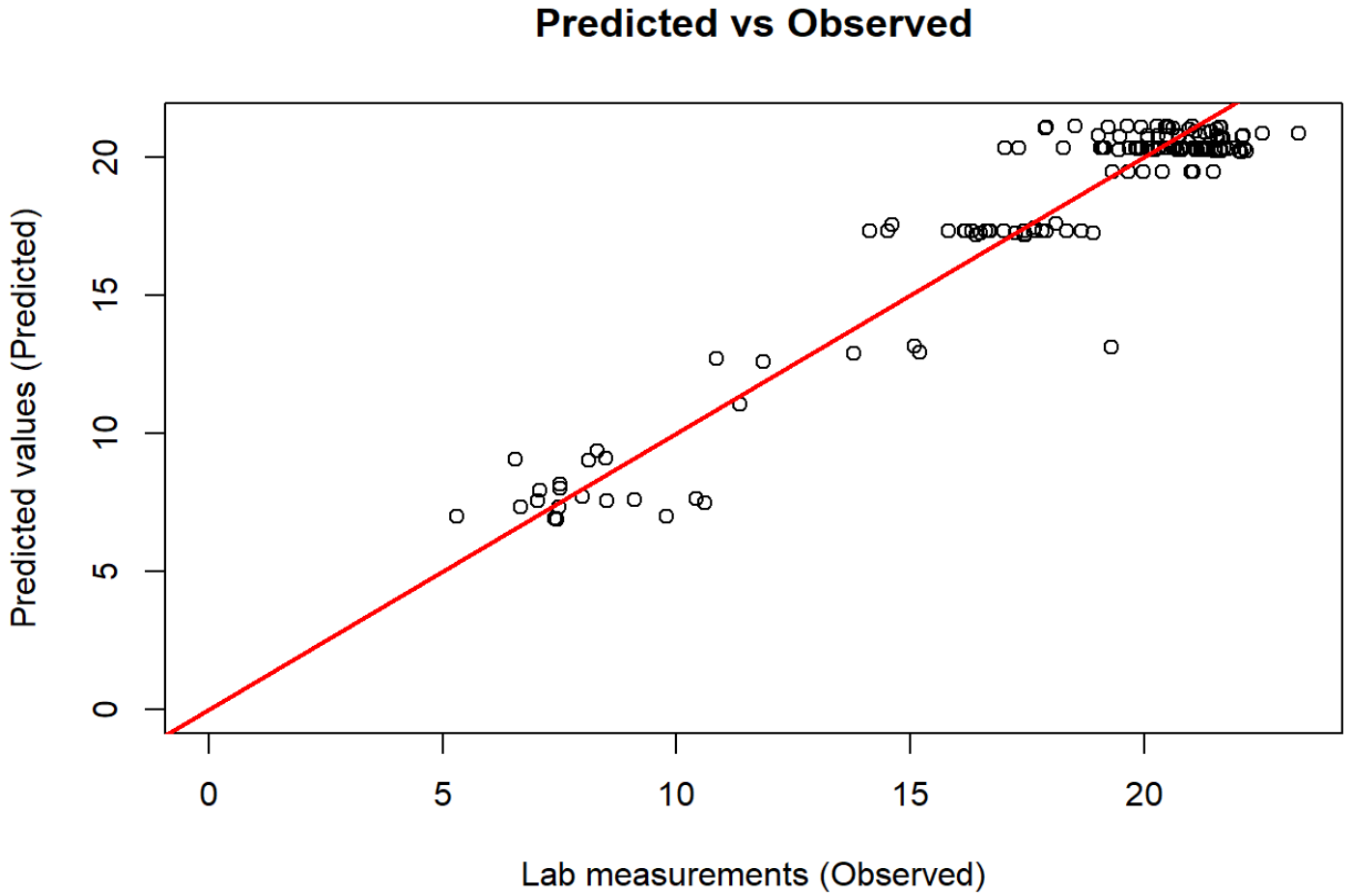


- We monitor hay 24/7
- We prevent hay fires
- SMS alerts in case of danger
- Historical data for traceability


Model Enriching
Data ingestion
HAYTECH AI algorithm
Evaluation and validation
Model training

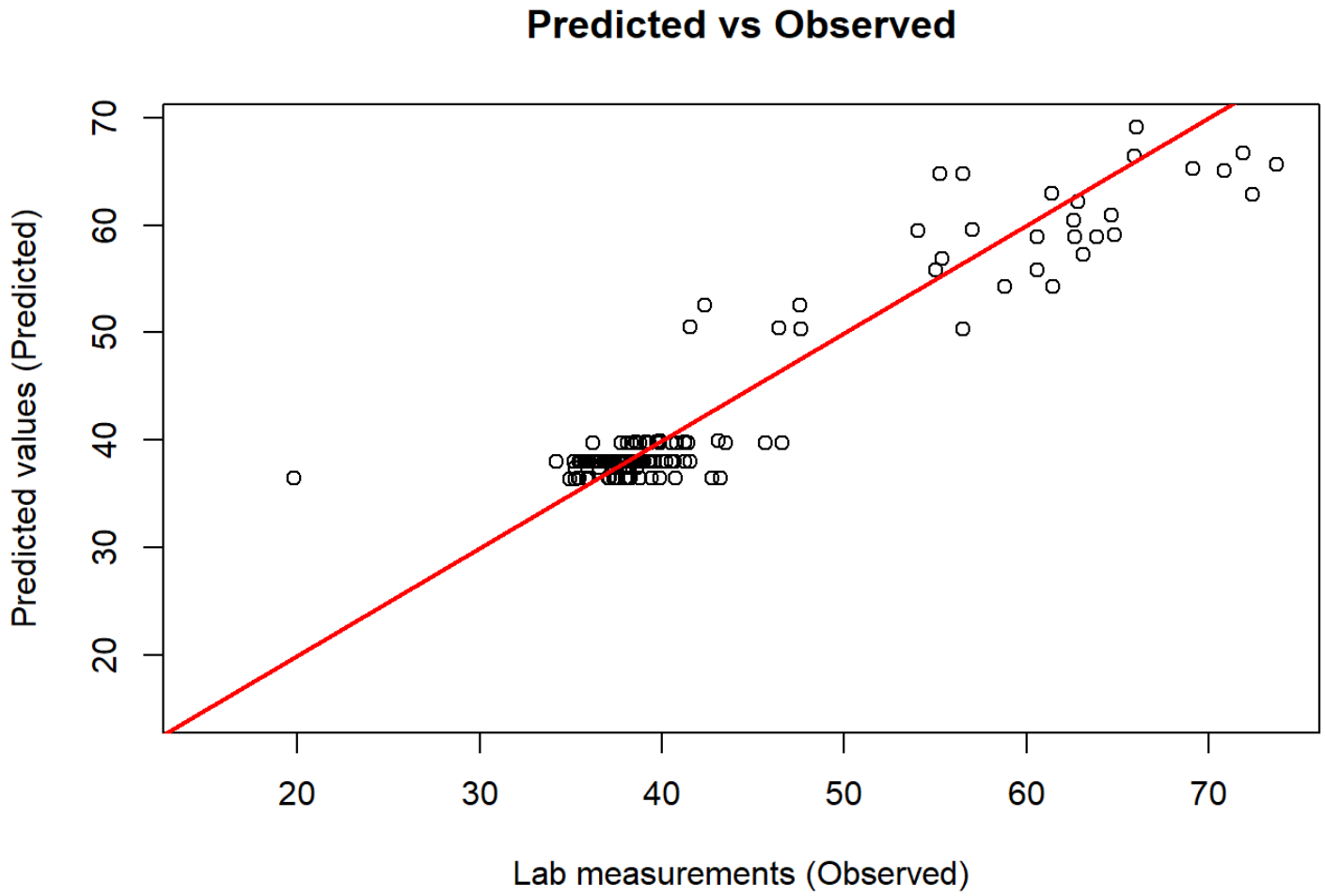
Prediction of Crude Proteins (CP) in real time

- The ML/AI model has an accuracy of 87%
- The RMSE is 1.3.
- The ML/AI model requires standard factors:
  - Temperature monitoring
  - Grass species
  - Cut number
  - Date of cut
  - Localisation (Region)

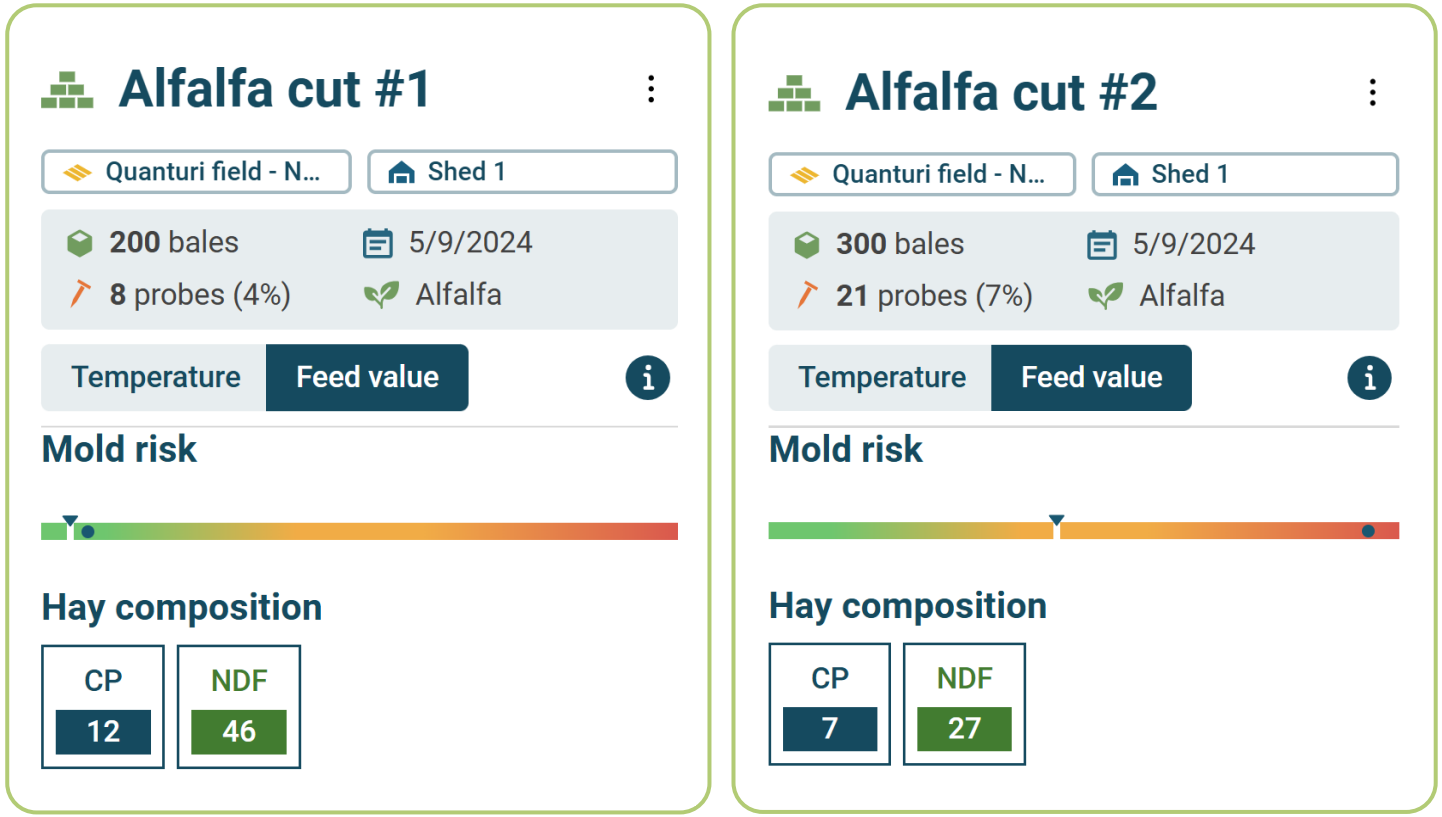


Prediction of Neutral Detergent Fibers (aNDF) in real time

- The ML/AI model has an accuracy of 85%
- The RMSE is 3.3.
- The ML/AI model requires standard factors:
  - Temperature monitoring
  - Grass species
  - Cut number
  - Date of cut
  - Localisation (Region)

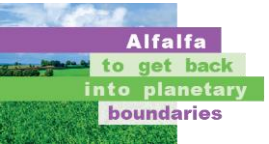


Our AI/ML algorithms give the composition of hay in real-time

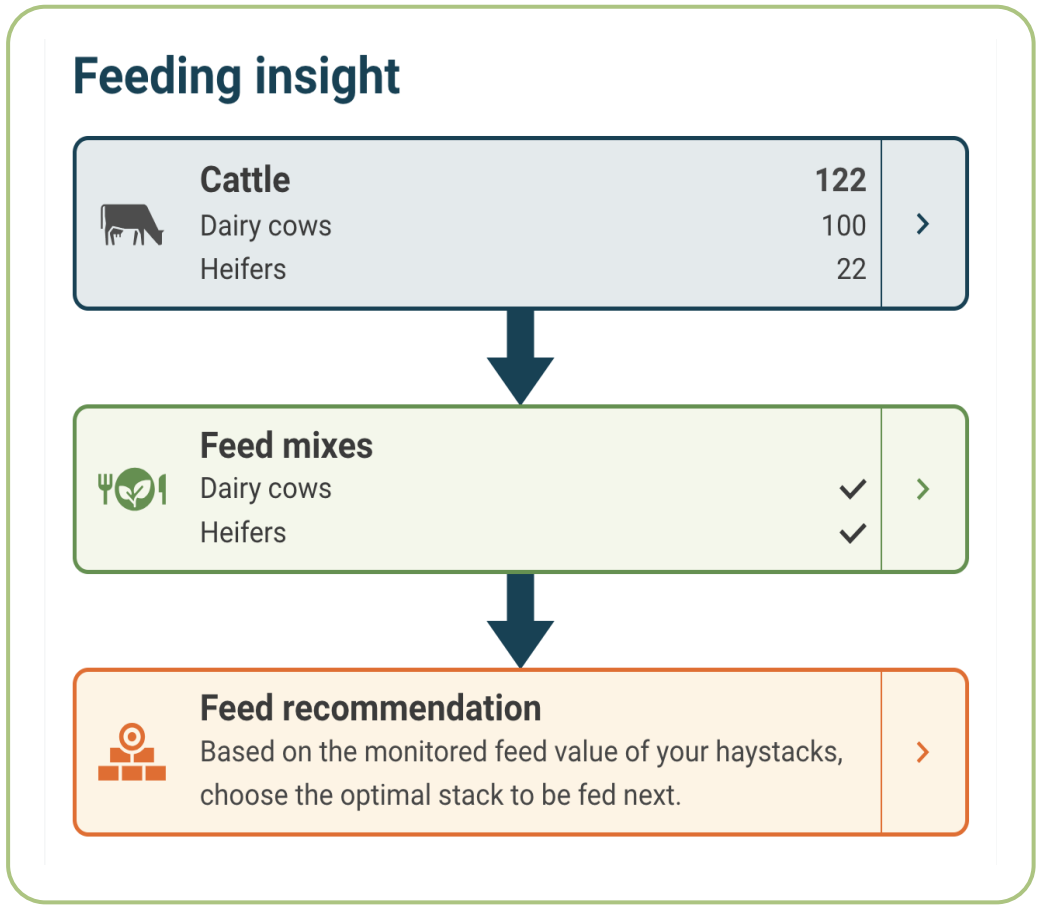


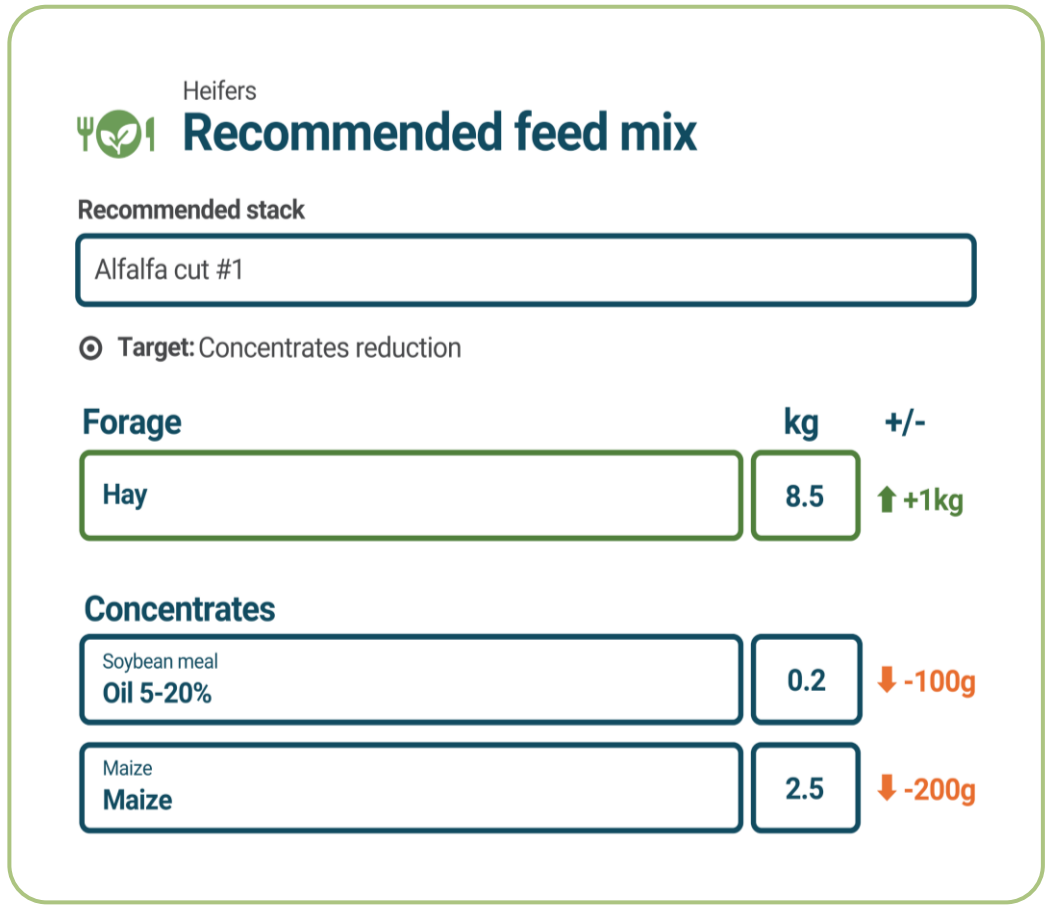
- We track and sequence hay composition: TDN(1), RFV(2), CP(3), NDF(4), ADF(5), Minerals, and Fat
- The accuracy in CP and NDF values is 87% and we target >90%
- No lab analysis needed

(1) Total Digestible Nutrients (2) Relative Feed Value (3) Crude Protein (4) Neutral Detergent Fiber (5) Acid Detergent Fiber



We create optimized data-driven nutrition programs from hay composition at time of feed





Feed	Feeding Ration (Lb.)
Corn silage	33
Grass silage	44
Hay	6.6
Barley	5.06
Corn (grain)	4.4
Canola meal	2.64
Soy meal	4.4
Total	98.9

Quanturi Feed Recommendation Feature suggests:
"Addition of 0.44 pounds of canola meal per cow per day"

Extra purchase: -20c/day/cow
Extra gain: +5 Lb. milk/cow/day, +$1.14/cow/day
Total Gain: +$0.94/cow/day

Confident

Quanturi

Monitoring each single hay bale from field to feed

More and better milk from happy cows

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