

L'approccio integrato all'azienda: il sistema MyFarm

..ma anche...

**Recenti Esperienze nell'impiego di sistemi di controllo lineare e dinamico per
predire l'azienda del futuro
- Il progetto SMART-ET -**

Antonio Gallo, Francesco Maseoro, Alberto Atzori

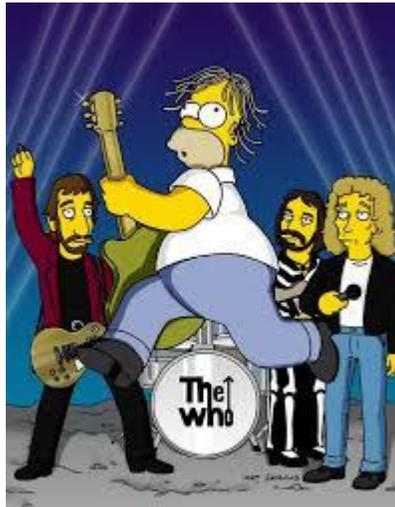
"As part of the [EIT's Crisis Response Initiative](#), this activity directly contributes to the European Union's response to the COVID-19 pandemic."



This activity has received funding from EIT Food, the innovation community on Food of the European Institute of Innovation and Technology (EIT), a body of the EU, under the Horizon 2020, the EU Framework Programme for Research and Innovation

Cosa è cambiato nella Valutazione degli Alimenti

60s-70s vs. 2020



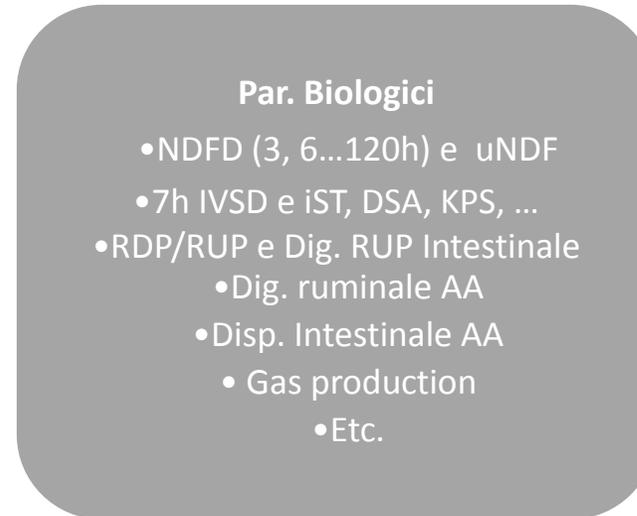
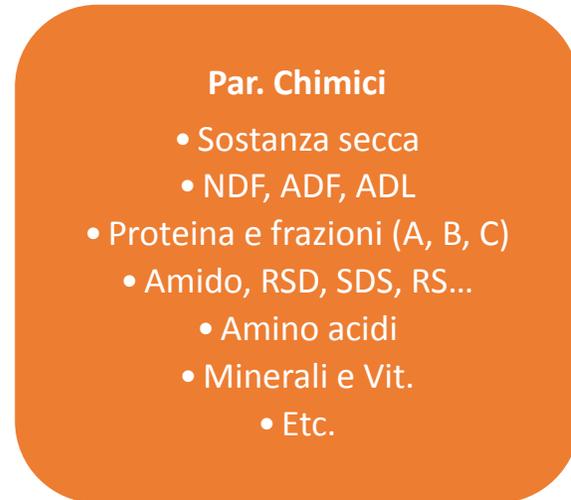
Come misurare la Qualità dei Foraggi Aziendali

Quali Parametri venivano utilizzati 70s-80s (nnd: prof. Francesco Masoero)



Come misurare la Qualità dei Foraggi Aziendali

Quali Parametri utilizziamo oggi

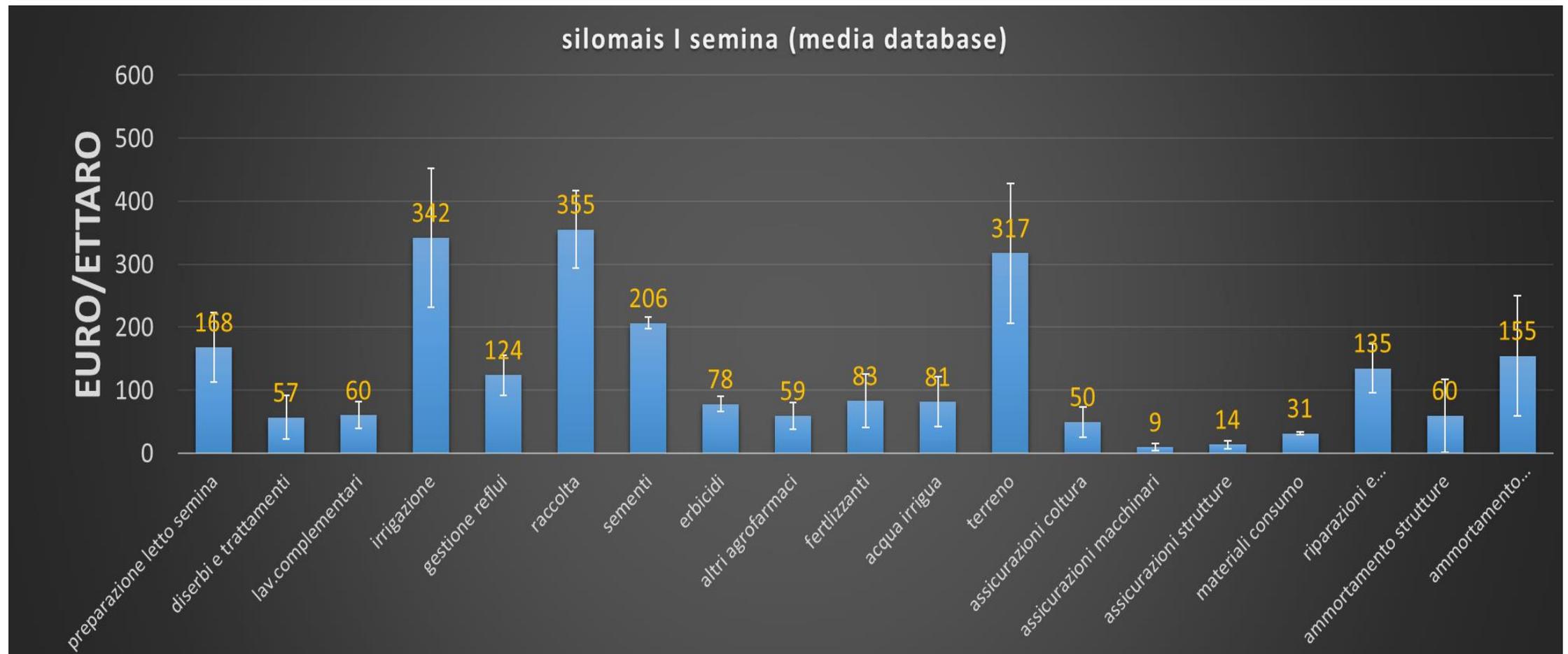


Determinazione “accurata” costi produzione foraggi

- **Intervista con allevatore/responsabile aziendale area agronomica:**
 - operazioni colturali svolte e mezzi tecnici utilizzati dalla semina alla raccolta
 - irrigazioni e gestione reflui
 - parco macchine, costi affitti, costi riparazioni e manutenzioni
 - assicurazioni, costo acqua irrigua e bonifica,
 - Resa ettaro e qualità nutrizionale delle produzioni agricole
- **Allocazione dei costi:**
 - **Costi diretti:** sementi, geo-disinfestanti, diserbi, concimi, insetticidi, fungicidi, assicurazioni, costo acqua irrigua e bonifica, costo gasolio, manodopera, spese terzi
 - **Costi indiretti:** costi manutenzione e riparazione attrezzature, ammortamenti
 - **Costo terreno:** costo degli affitti

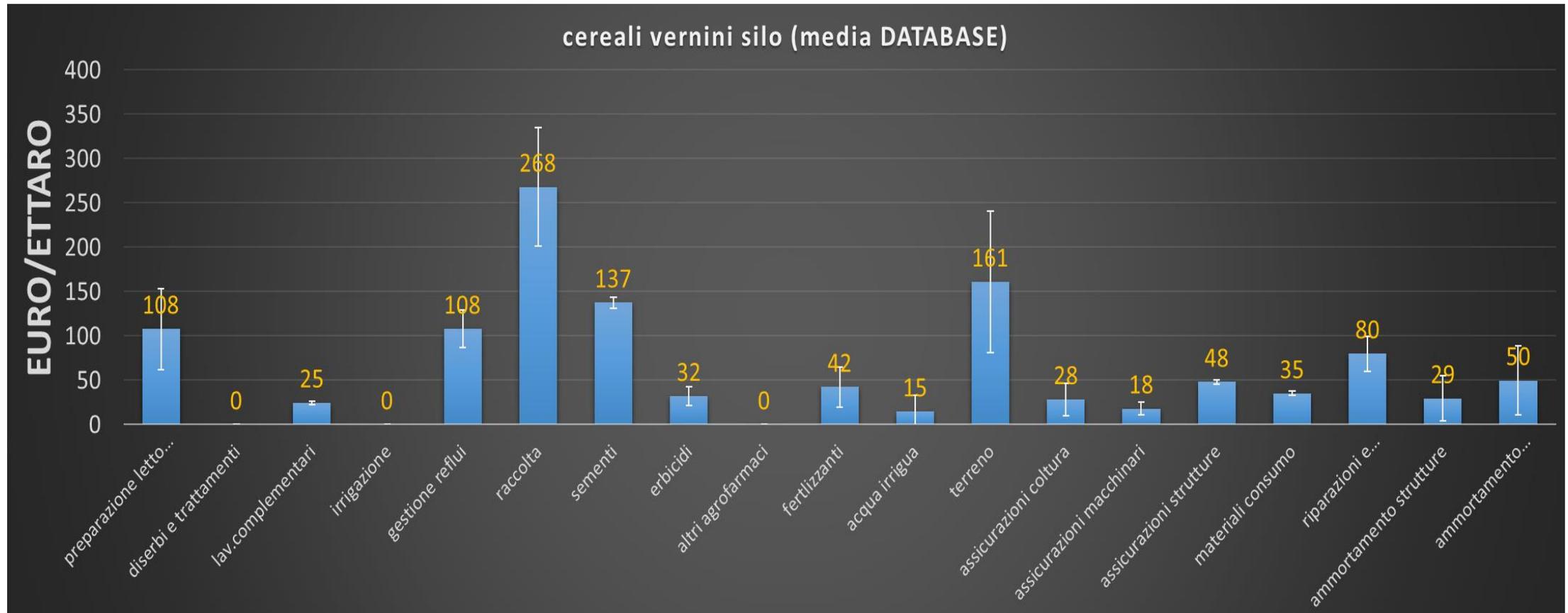
Insilato di Mais

costo 2384 €/ha (min 1700 – max 2900)

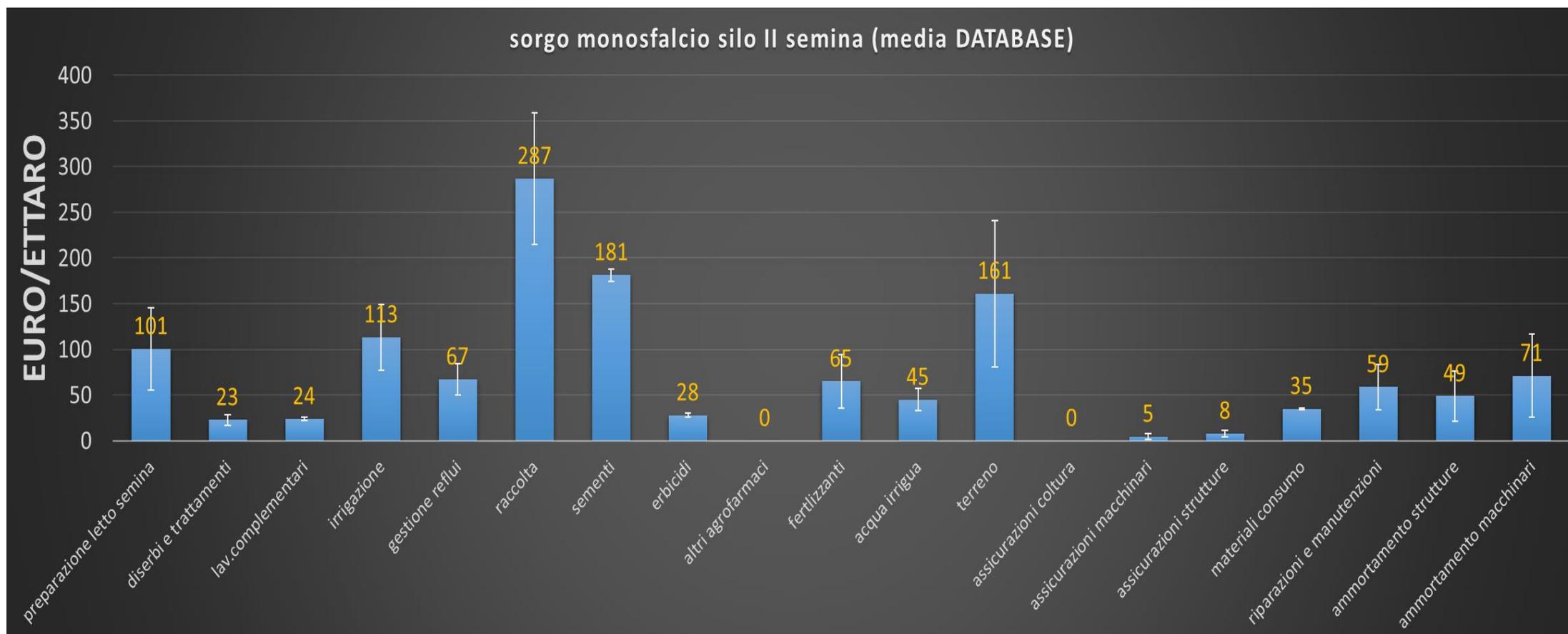


Insilati di cereali autunno-vernini

Costo 1083 €/ha (min 650 – max 1400)

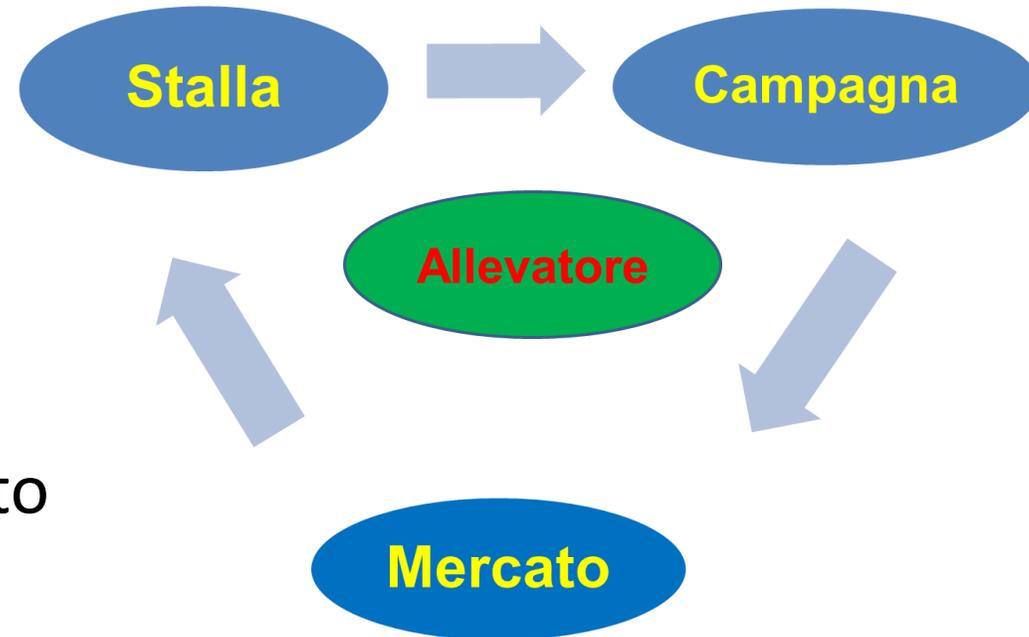


Sorgo mono-sfalcio in seconda semina costo 1284 €/ha (min 950 – max 1650)



L'azienda agro-zootecnica è un **sistema complesso** fatto da molte componenti che non sempre lavorano insieme

- Strutture
- Campagna
- Personale
- Attrezzature
- Alimenti e razionamento
- Risorse economiche
- Etc.

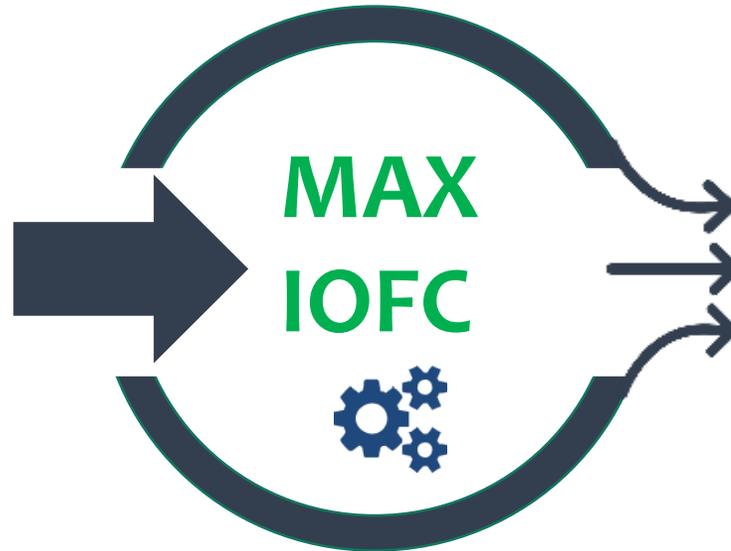


Approccio MY FARM

ottimizzazione dei piani foraggeri e delle diete (tutte!)

INPUTS aziendali

- Piano colturale ATTUALE
- Piano alimentare ATTUALE
- Composizione mandria
- Livello produttivo
- Costi produzione foraggi AZIENDALI



Processo di ottimizzazione

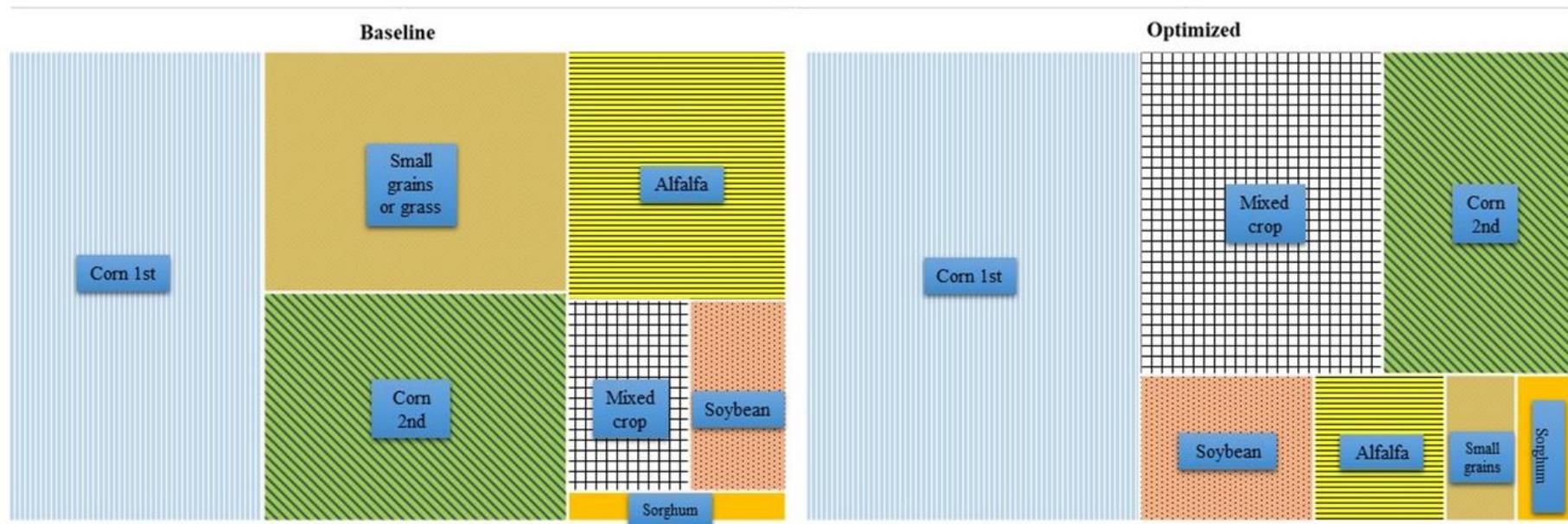
Limiti aziendali

- Disponibilita' e tipologia terreni
- Caratteristiche aziendali
- Agro-tecnica
- Stoccaggi alimenti (trincee, fienili..)

- Piano colturale OTTIMIZZATO
- Piano alimentare OTTIMIZZATO

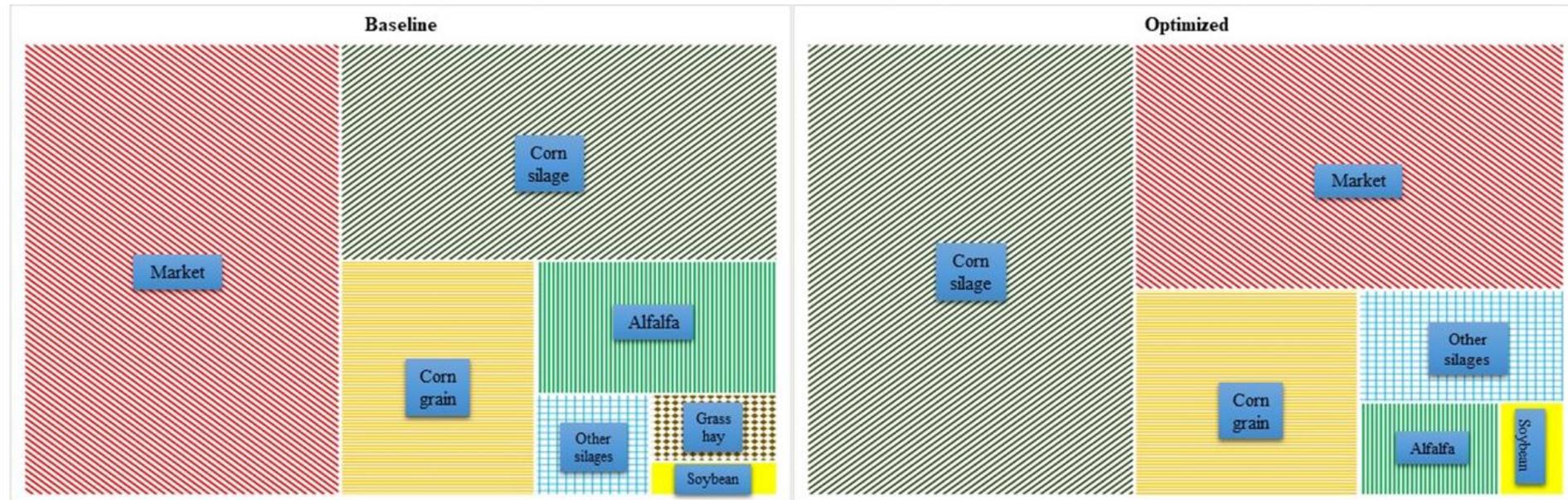
Approccio MY FARM

Ottimizzazione dei Piani colturali



Approccio MY FARM

Ottimizzazione delle diete



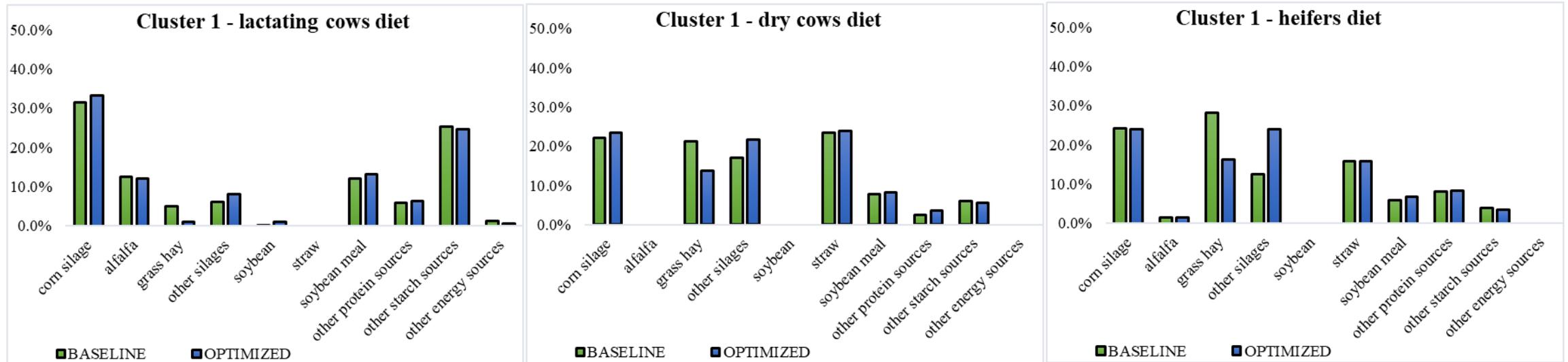
Riassunto su 30 aziende della Pianura Padana

Energia auto-prodotta (+8.5 ± 6.3%) Proteina auto-prodotta (+3.6 ± 3.1%).

Riduzione Costi Alimetari (- 6.7%, da 0.49% a 21.6%)

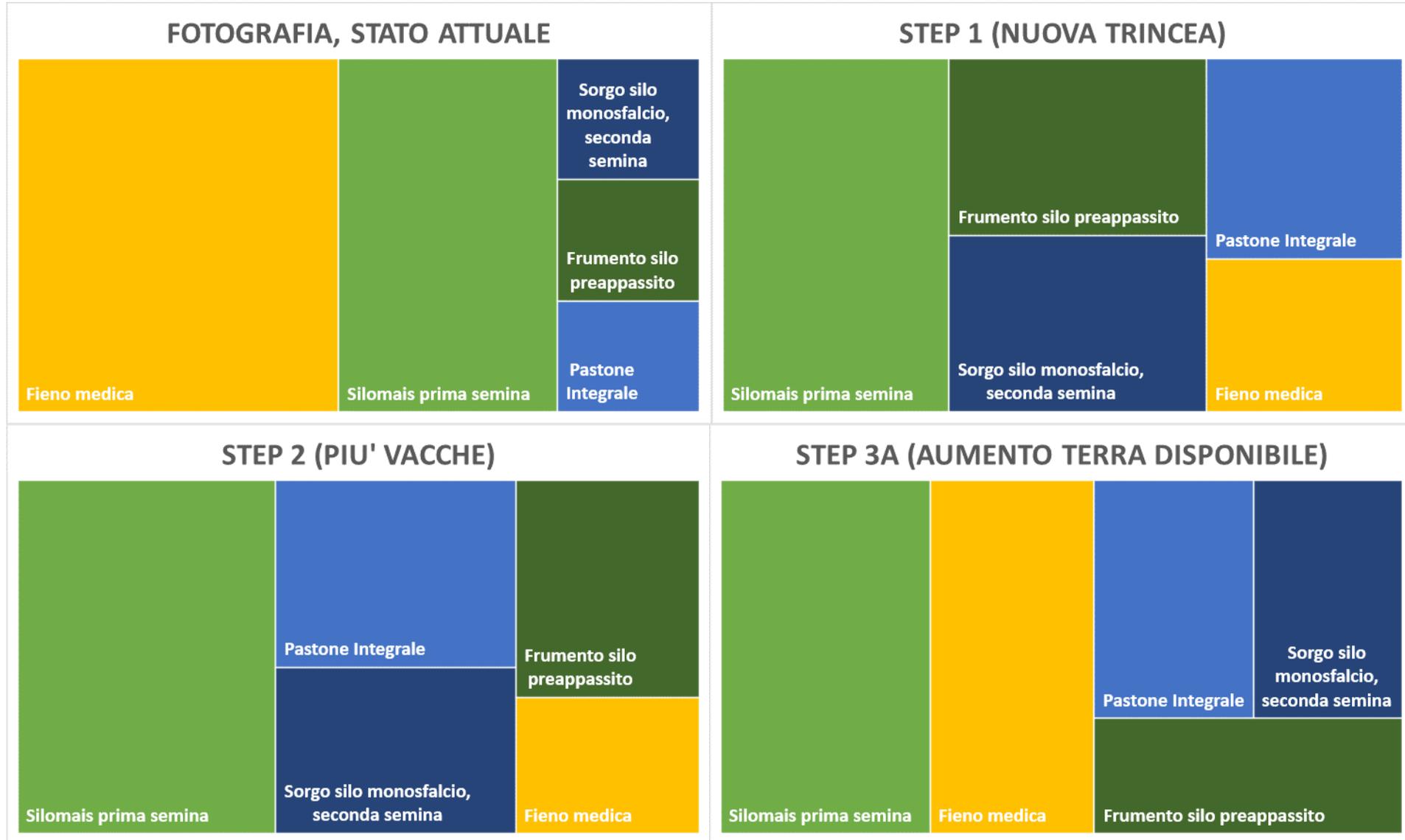
Approccio MY FARM

Ottimizzazione dei Piani Alimentari e allocazione foraggi nelle diverse razioni



Approccio MY FARM

Esempio di Ottimizzazione multi-steps



SMART-ET: SPEEDING UP MARKET CONNECTIONS BETWEEN CHEESE PRODUCERS AND CONSUMERS DURING PANDEMICS

Activity Leader: Antonio Gallo

Webinar, 26/11/2020

Within EIT Food “SUDAPS - Support for Dairy Production Sector in RIS Region”

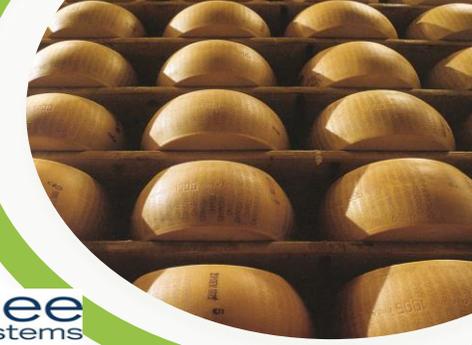
"As part of the [EIT's Crisis Response Initiative](#), this activity directly contributes to the European Union's response to the COVID-19 pandemic."



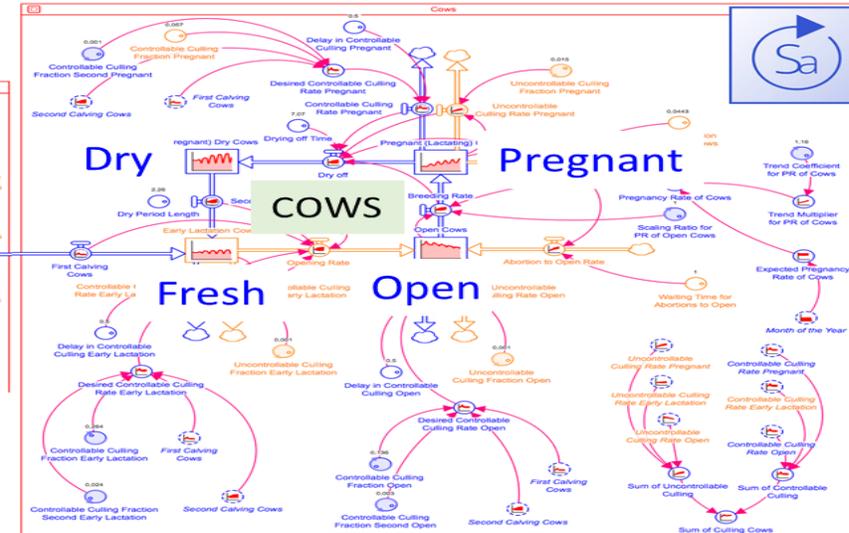
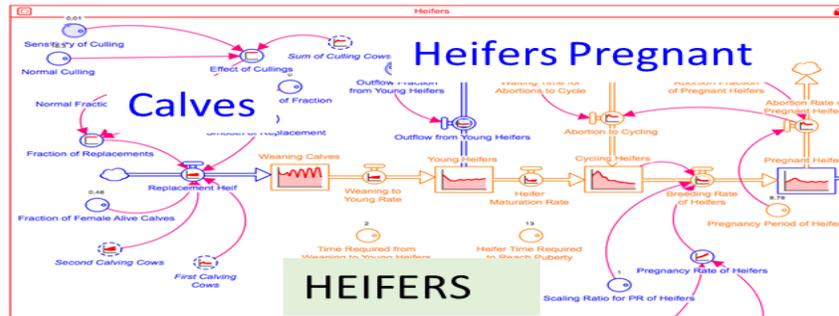


Food

Development of a decision making tool to predict cheese production

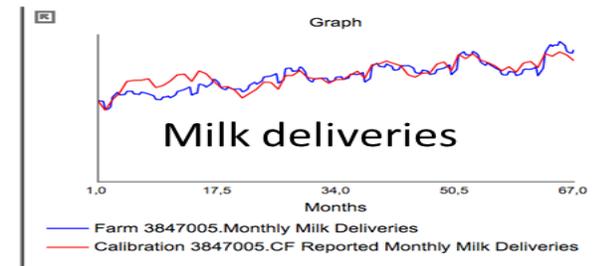
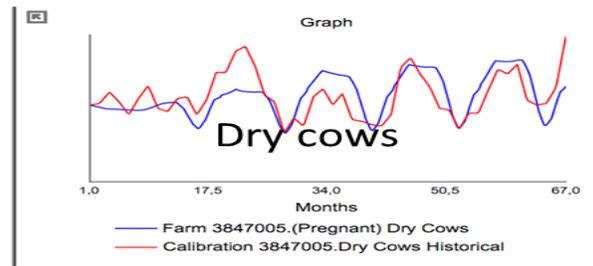
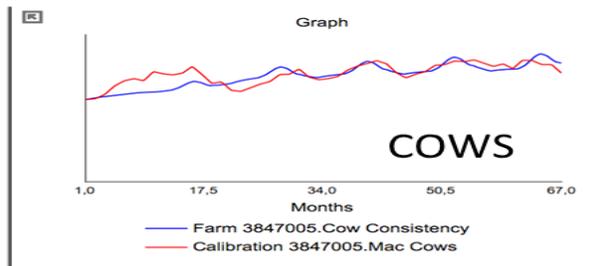


Model Upgrade on reproduction parameters Pregnancy rate, Abortion, Cullings, Deaths



Outputs: Herd profile, Milk deliveries, culled cows, farm incomes and feeding costs.

Observed vs. Predicted Model Outputs



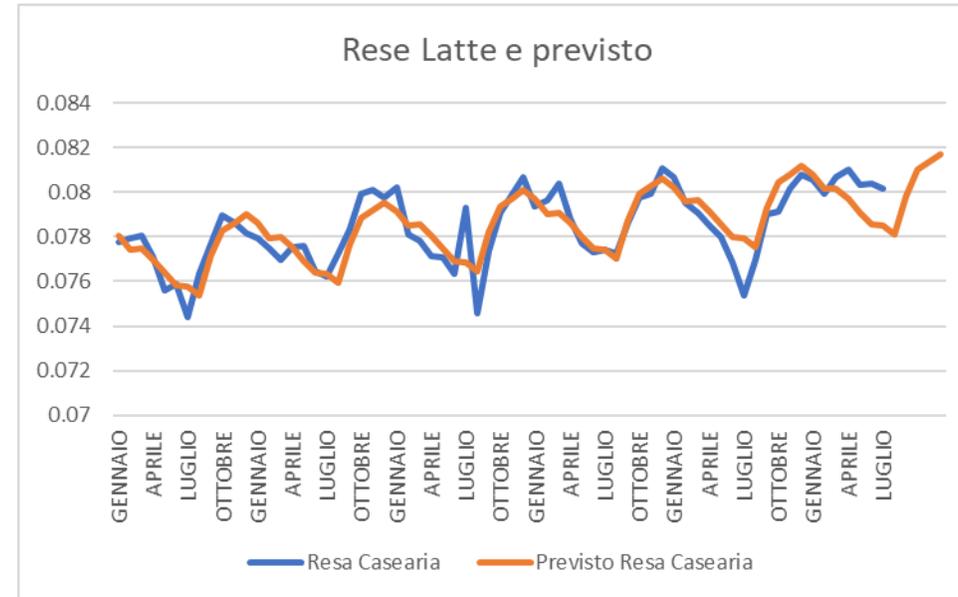
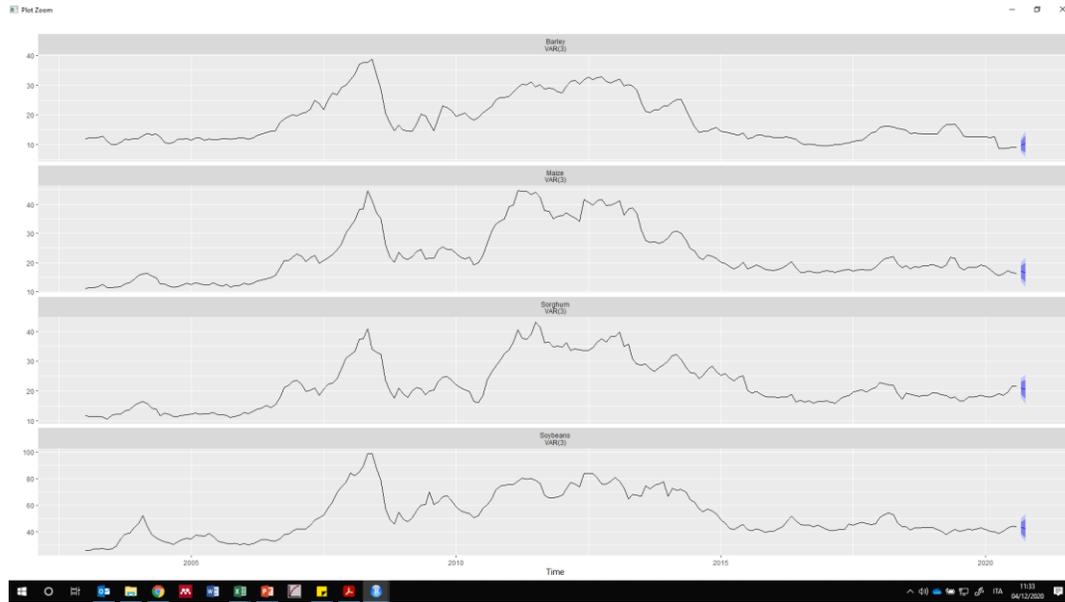
Atzori & Gallo, 2019, ADSA

Atzori, Atamer Balkan, Gallo, 2020, EAAP



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Development of a decision making tool to predict cheese production



Prof. Gutierrez L. UniSS



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Food

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