

Spring forage stash module to prevent forage crisis on Uruguayan livestock systems: An evaluation based on model simulations.



Pereira Machín, M.

Instituto Plan Agropecuario
Br Artigas 3802, Montevideo, CP 11.700, Uruguay
mpereira@planagropecuario.org.uy

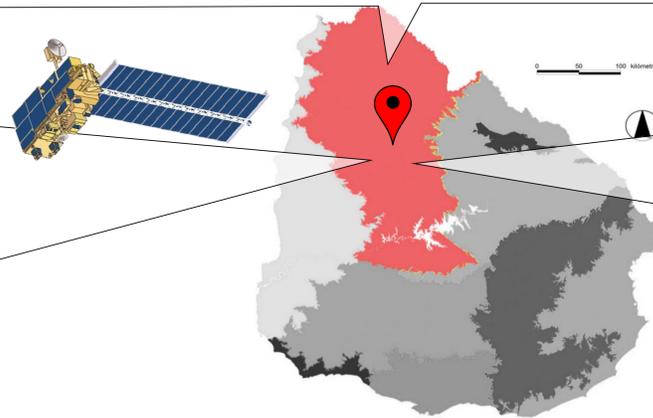
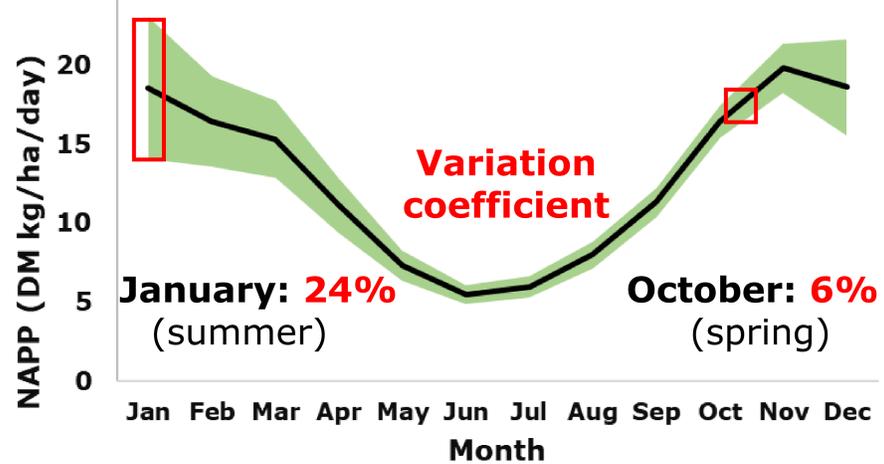
Dieguez Cameroni, F.

Facultad de Veterinaria, UdelaR, IPAV
Ruta 1 km 4.200, Libertad, San José, CP 80.100 Uruguay



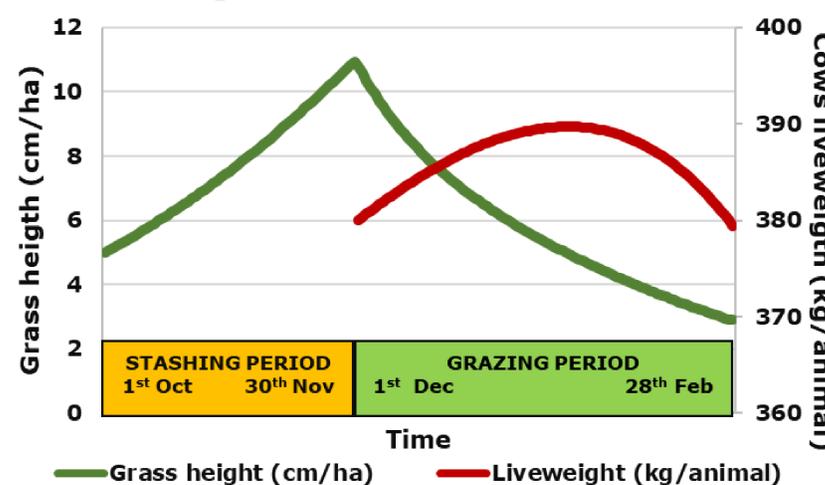
The Basaltic Region: it hosts most of Uruguay's breeding systems, and is sensitive to drought episodes during the summer season (where pasture productivity increases and is needed to cope cows feed requirements)

Net Aerial Primary Productivity (NAPP) by remote sensing (LART, 2019)



A **stash module** strategy was modelled using Predator-Prey Grassland Livestock model (PPGL; Dieguez & Fort, 2017) on a representative Basaltic farm (stocking rate: 0,7 Gross Units/ha) **considering 10% of grazing surface as standing grass reservoir** in a drought scenario (25% of historical mean NAPP) with 5 cm/ha grass height (1500 kg DM/ha) at beginning of simulation period.

Grass height and rearing cows liveweight evolution on stash module



A **Secured cow** is a rearing adult female that maintains its live weight (380 kg) through the summer drought period at the stash module.

The **secured cow percentage (%SC)** is the ratio between the number of Secured cows and the total rearing cows herd.

There is an opportunity to stock standing grass on relative high pasture growth rates season (spring, with relative high confidence) to transfer it to summer season (with relative high variability).

- Two thirds of rearing cows herd can be **secured** at **stashing module** (%SC = 68%) when stashing initial grass height is 5 cm, with high stocking rates (2,24 Gross Units/ha) in summer grazing period.
- A linear regression between initial grass height of stashing and %SC was observed. An addition of 14% of cows can be **secured** increasing 1 cm of grass at the beginning of stashing period.