REGENERATIVE AGRICULTURE: FIVE POINTS VISION

The Gaucho's way
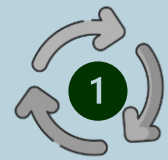
1 Life Cycle Assessment greenhouse gases emission

5 Predictomics

4 Biodiversity

3 Soil Organic Carbon Stock
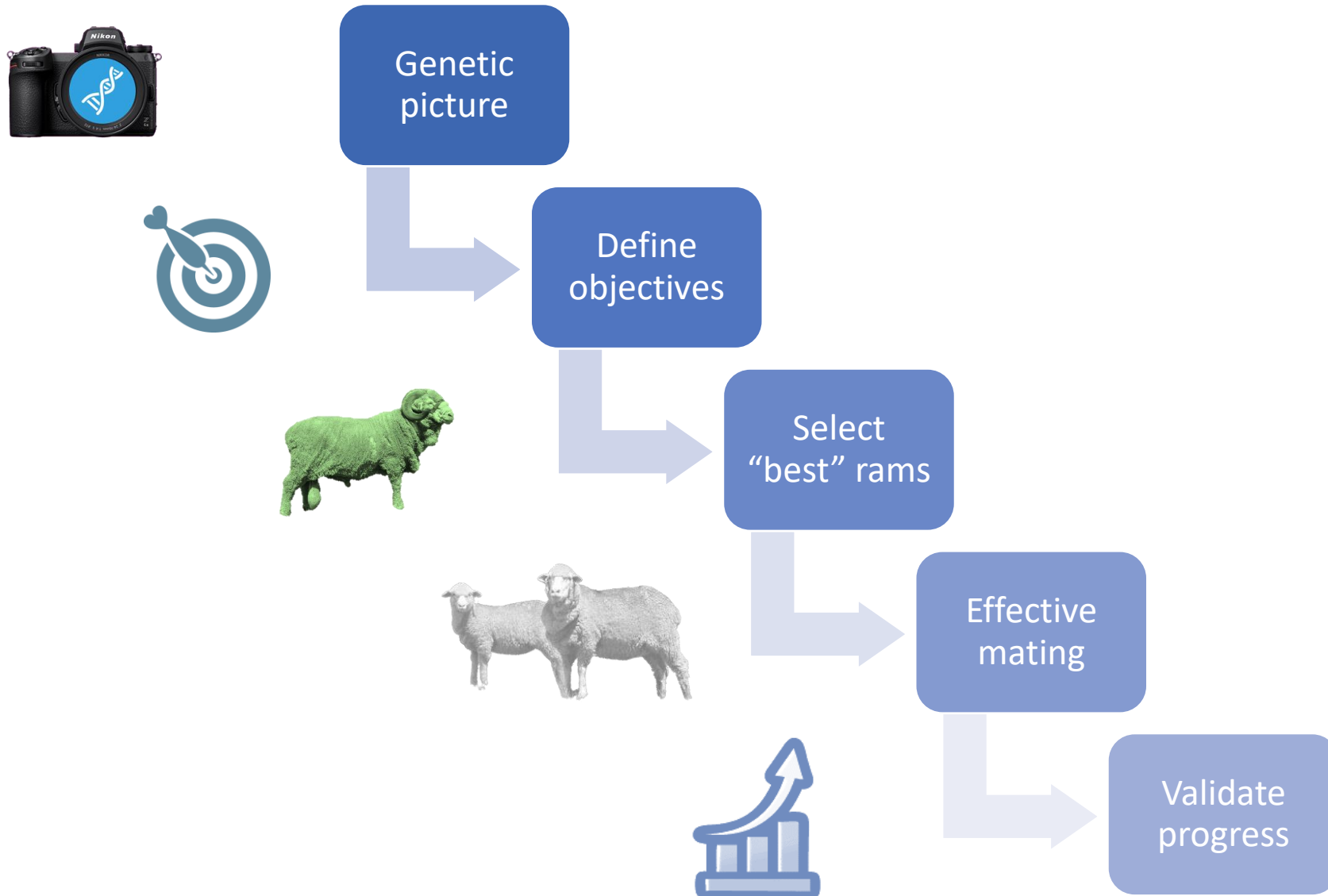
2 Ecosystem Integrity Index

Referencias

IIE
- 0
- 0 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- 3 - 3.5
- 3.5 - 4

IIE Global	3.5
Estructura	3.9
Especies	2.3

Blumetto, et al. (2019)

NATIVA
PRECIOUS FIBER

CHARGEURS
LUXURY FIBERS

Lanas Trinidad

Genetic picture

Define objectives

Select "best" rams

Effective mating

Validate progress

Take a picture of the genetics of the commercial farm: draw the baseline

Main traits

❑ Wool production

❑ Resistance against gastrointestinal parasites
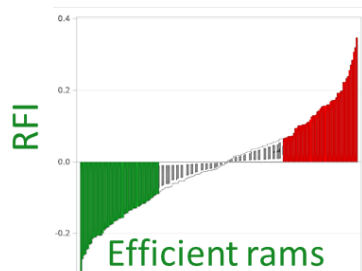
❑ Methane emissions (GHG)

❑ Residual Feed Intake

Define selection objectives

Based on the picture and LCA analysis define traits to improve or maintain genetic level

Example: Maintain wool production, increase resistance to parasites and have more efficient animals

Select the "best" rams

- >1100 animals evaluated (>500 rams) for Feed Intake and CH_4 emissions
- Reference population (nucleus) very close to commercial population
- Rams & semen dosses available with breeding value for main traits
- More efficient animals have 23% less feed intake and 6% less CH4

Effective mating

❑ Incorporation of the new genetics into the flock: directly or by own multipliers

❑ Speed up replacement rate
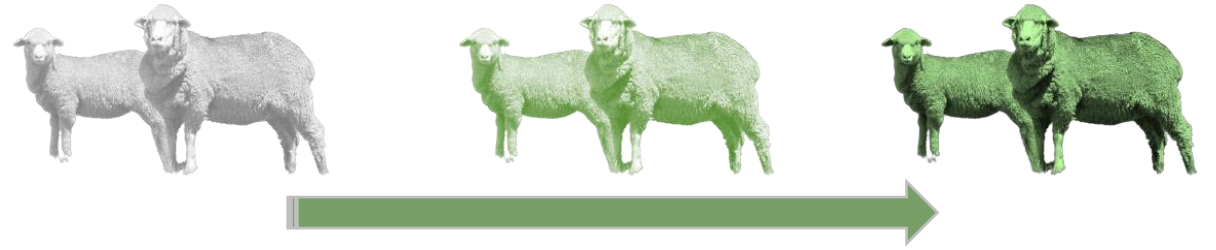
Validate progress

❑ At the end of the project, estimate average breeding value for mian traits of rams used

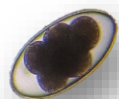or take a new genomic picture (multipliers)

TU SEI QUI

- ❏ We demonstrate that genotyped (nucleus) animals are close to commercial populations
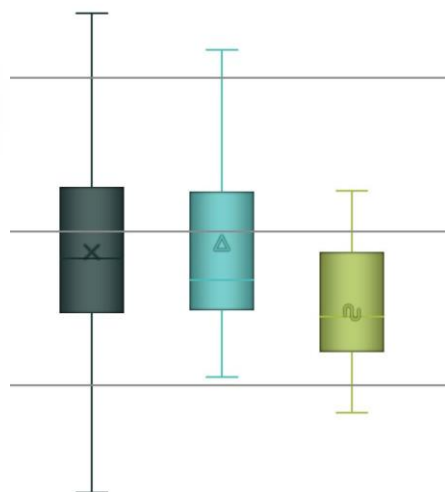- ❏ The genetic level for main traits in these populations can be estimated with very good accuracy
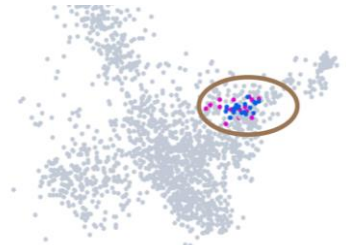
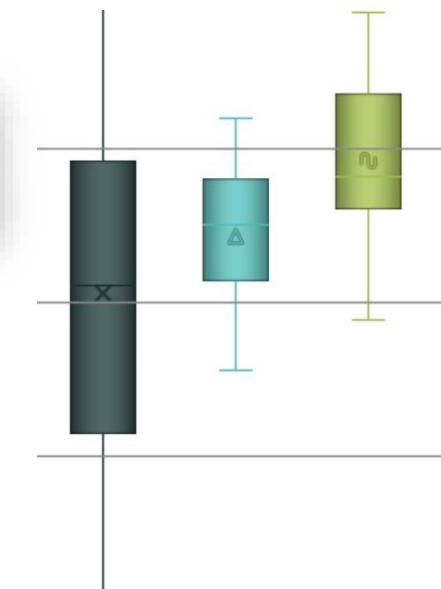Kg greasy wool
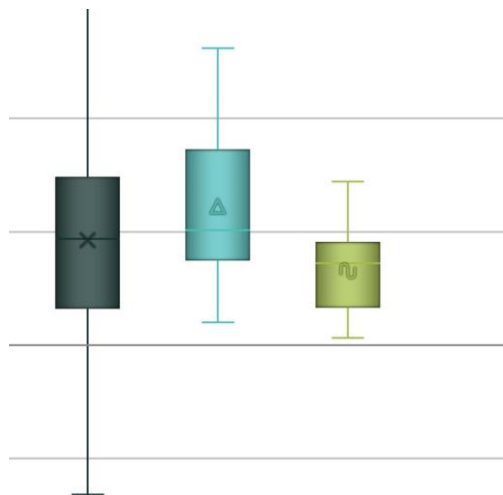
0.185	0.245	0.131
INIA	LS	M

Faecal egg count

-0.03	-0.01	-0.11
INIA	LS	M

g CH$_4$ / day

0.06	0.43	0.92
INIA	LS	M

Results for genomics evaluation (stud–flocks part of project)

Greasy fleece weight

FEC

Methane
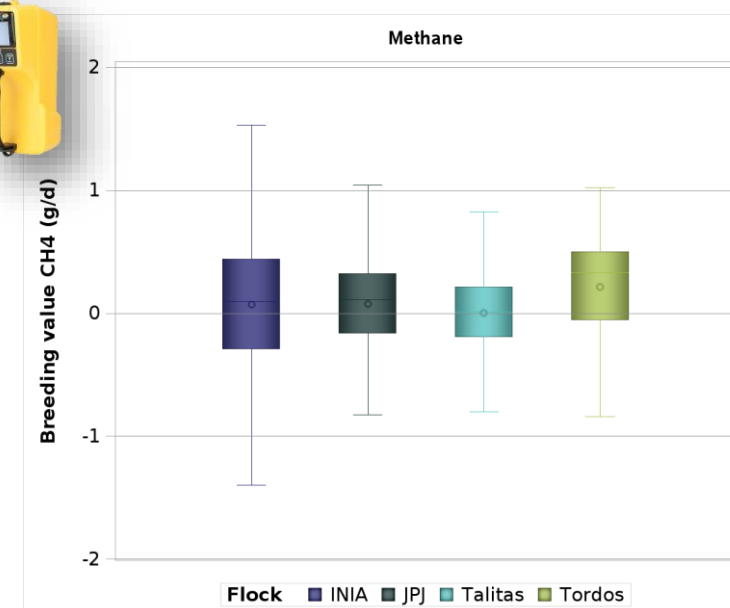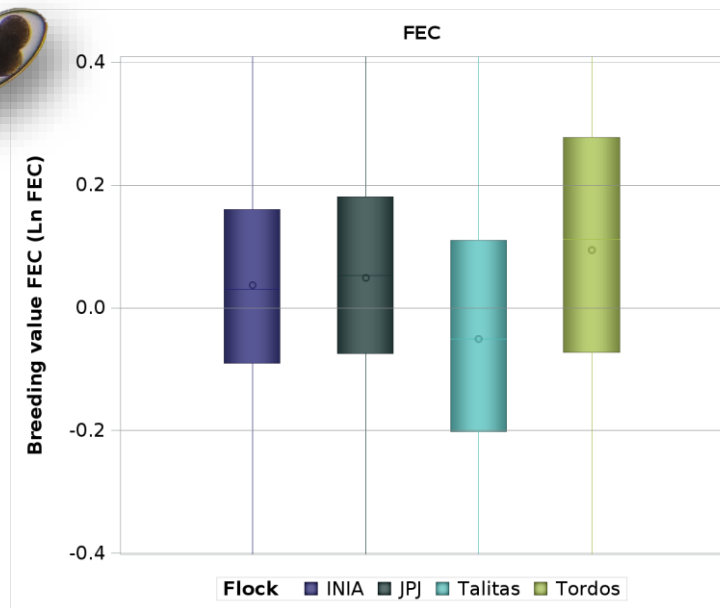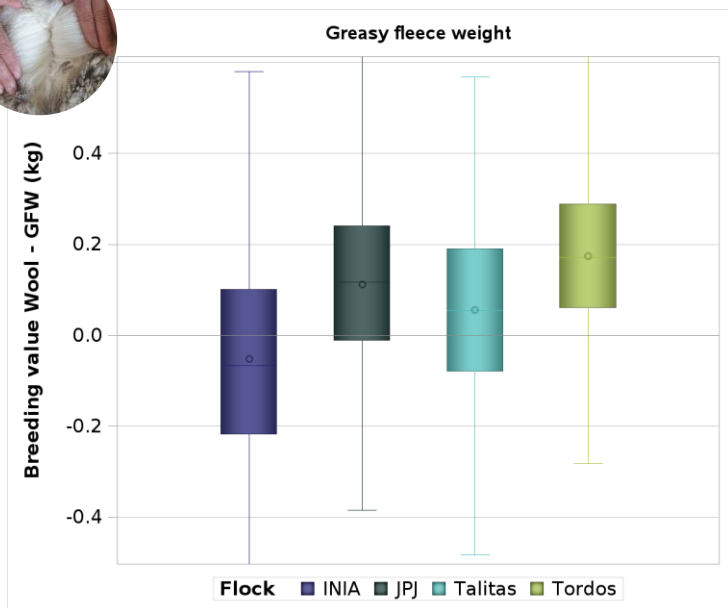
Prod.	Flock	n *
Otegui	La Magdalena	1,890
Perez Jones**	La Aguada	1,658
de Brum	Talitas	2,915
INIA	Glencoe	5,514

*Animals evaluated with accuracy>0.1 for CH4
** former Los Manantiales