



# Growth of Senepol-sired Calves at Zulia, Venezuela



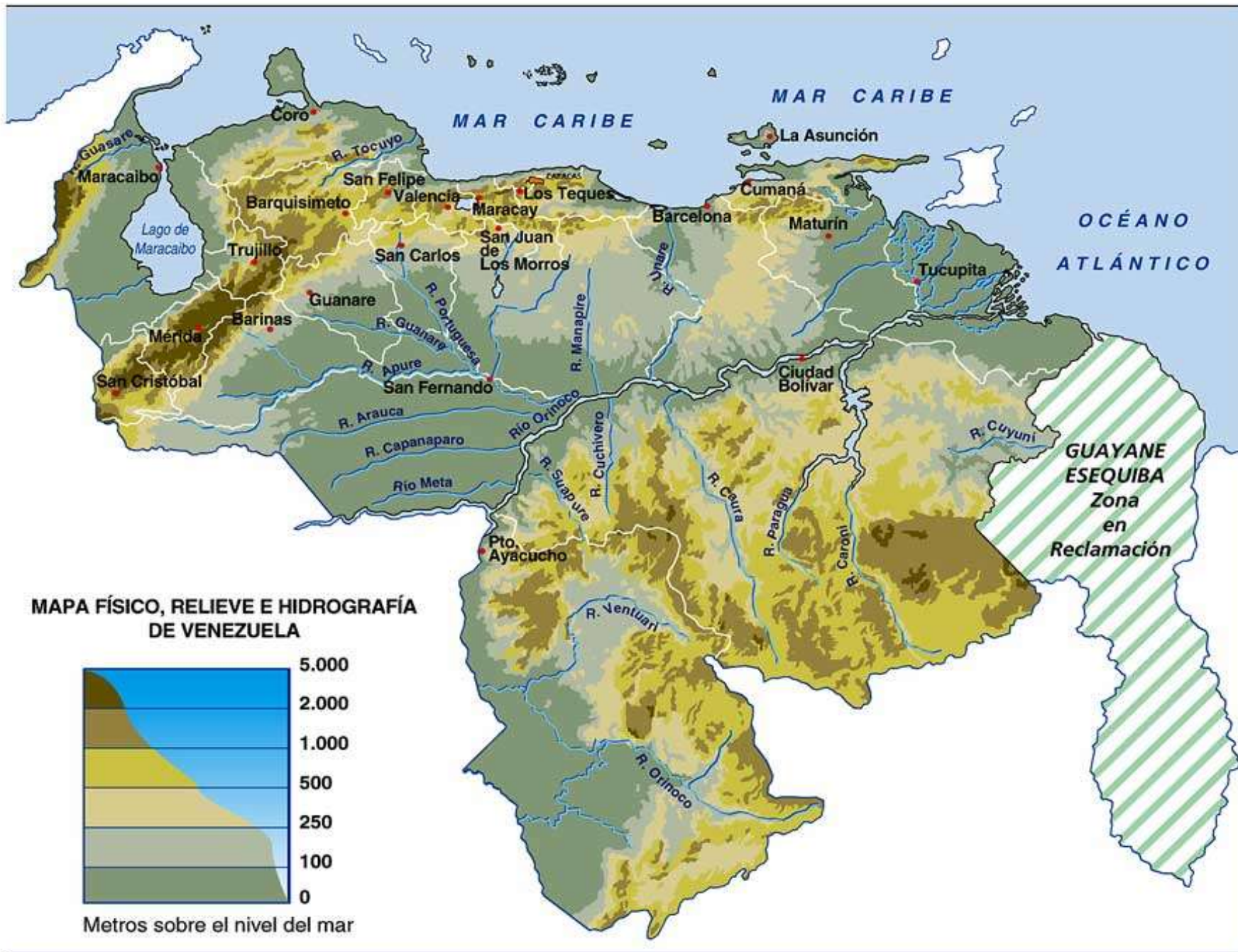
William Isea Villasmil

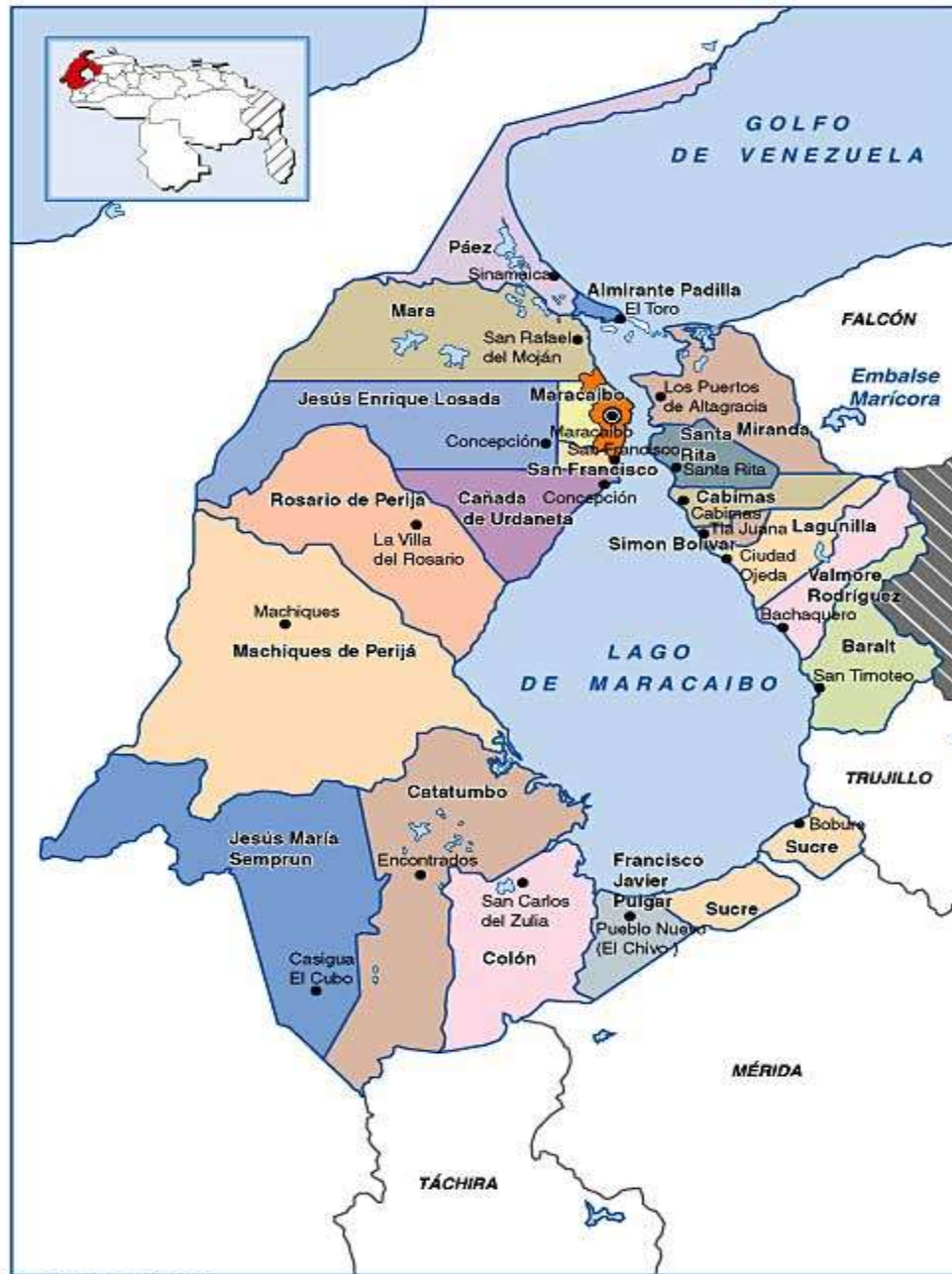
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**ESTADO ZULIA**



SAN PEDRO



PILOT FARM



# Objectives

- To investigate the combining ability of Senepol for growth when bred to *Bos taurus* dairy cows.
- To estimate the productivity of the crossbred dam.
- To demonstrate the effects of farm and the sire\*farm interaction on calf growth.

## Farms, tropical climate, and calf nursing

- San Pedro: sub-humid, 6-month suckling
- Yapacana: very dry, 8-month suckling
- El Rincon: dry, 6-month suckling
- Puerto Nuevo: dry, 8-month suckling







# Mathematical model

Birth, weaning and yearling weights, and ADG adjusted at  
205-d and 365-d

=

General mean +

Farm +

Dam's breed of sire +

Sire +

Sire\*Farm +

Calf sex +

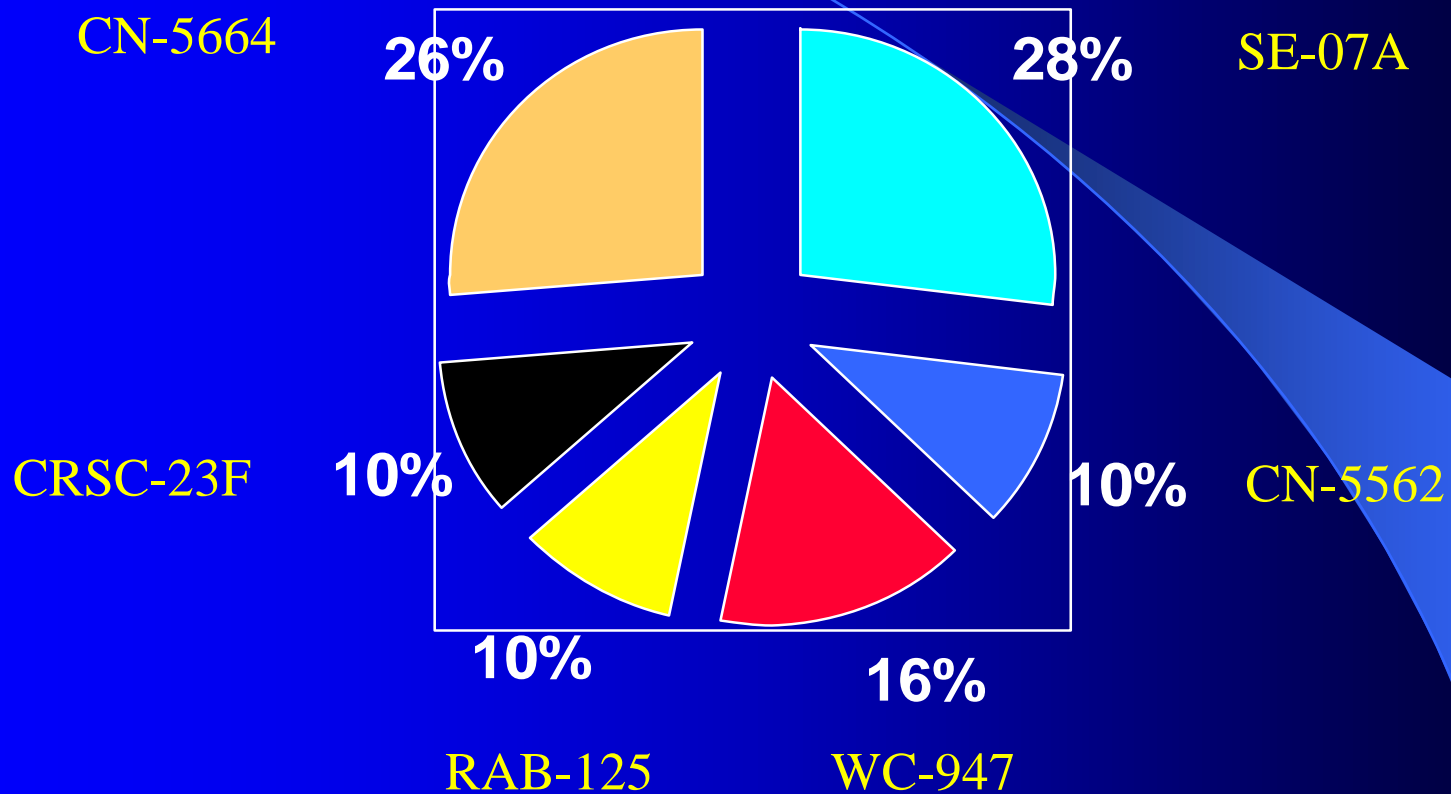
Cow age +

Hair color of calf +

Random error

# ANOVA FOR GROWTH TRAITS OF THE CALF ADJUSTED AT 205-d AND 365-d

<b>SOURCE</b>	<b>d of f</b>	<b>205-d wt</b>	<b>205-d ADG</b>	<b>365-d wt</b>	<b>365-d ADG</b>
Farm	3	P<0.001	P<0.001	P<0.001	P<0.001
Dam's breed of Sire	6				
Sire	5	P<0.05	P<0.05		
Sire * Farm	15			P<0.05	P<0.01
Calf sex	1			P<0.05	P<0.05
Calf color	2			P<0.05	
Cow age	1				
Residual	151				

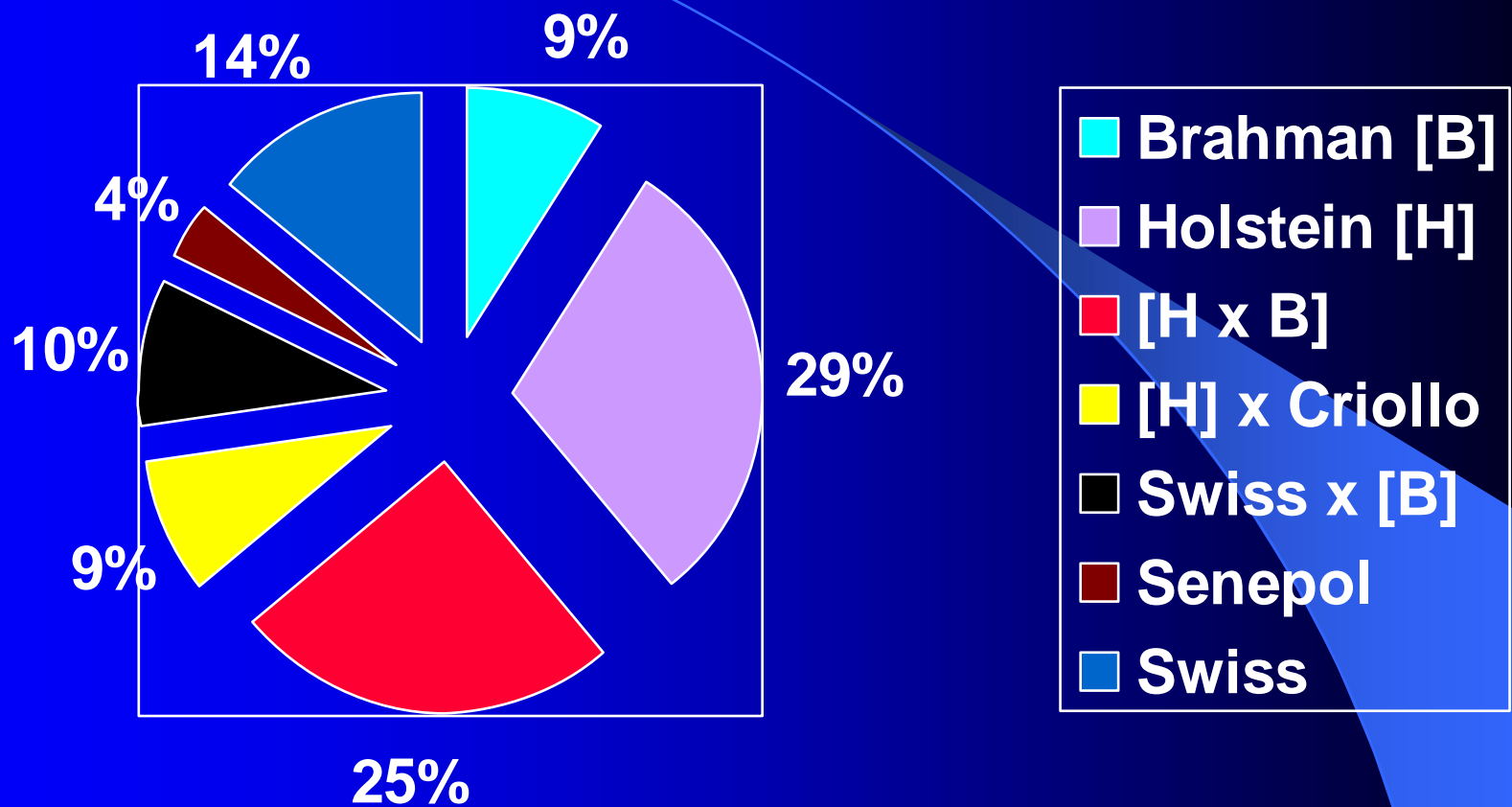


# SIRE'S PROGENY









**DAM'S BREED OF SIRE PROGENY**























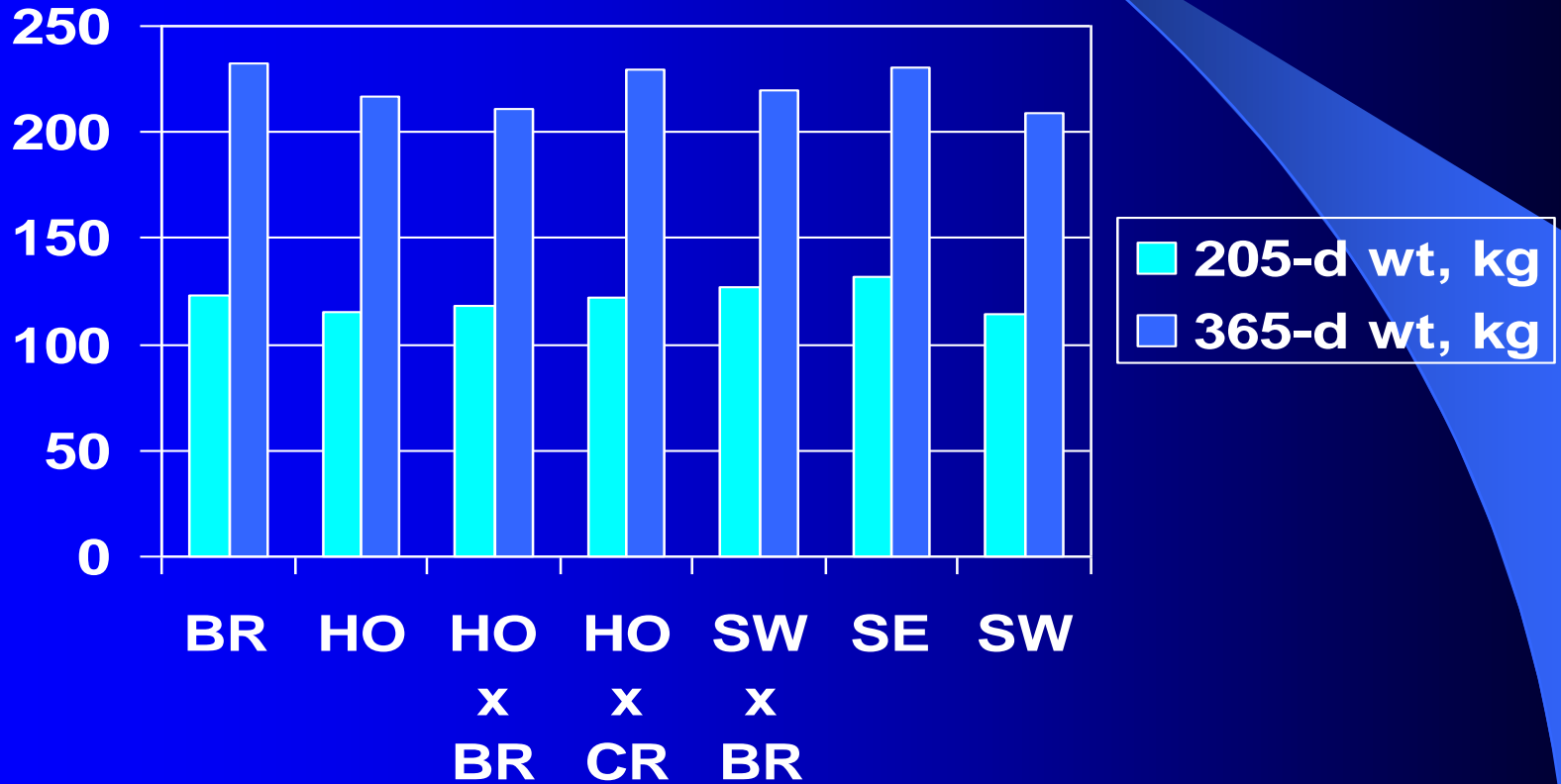


# GROWTH TRAITS BY FARM

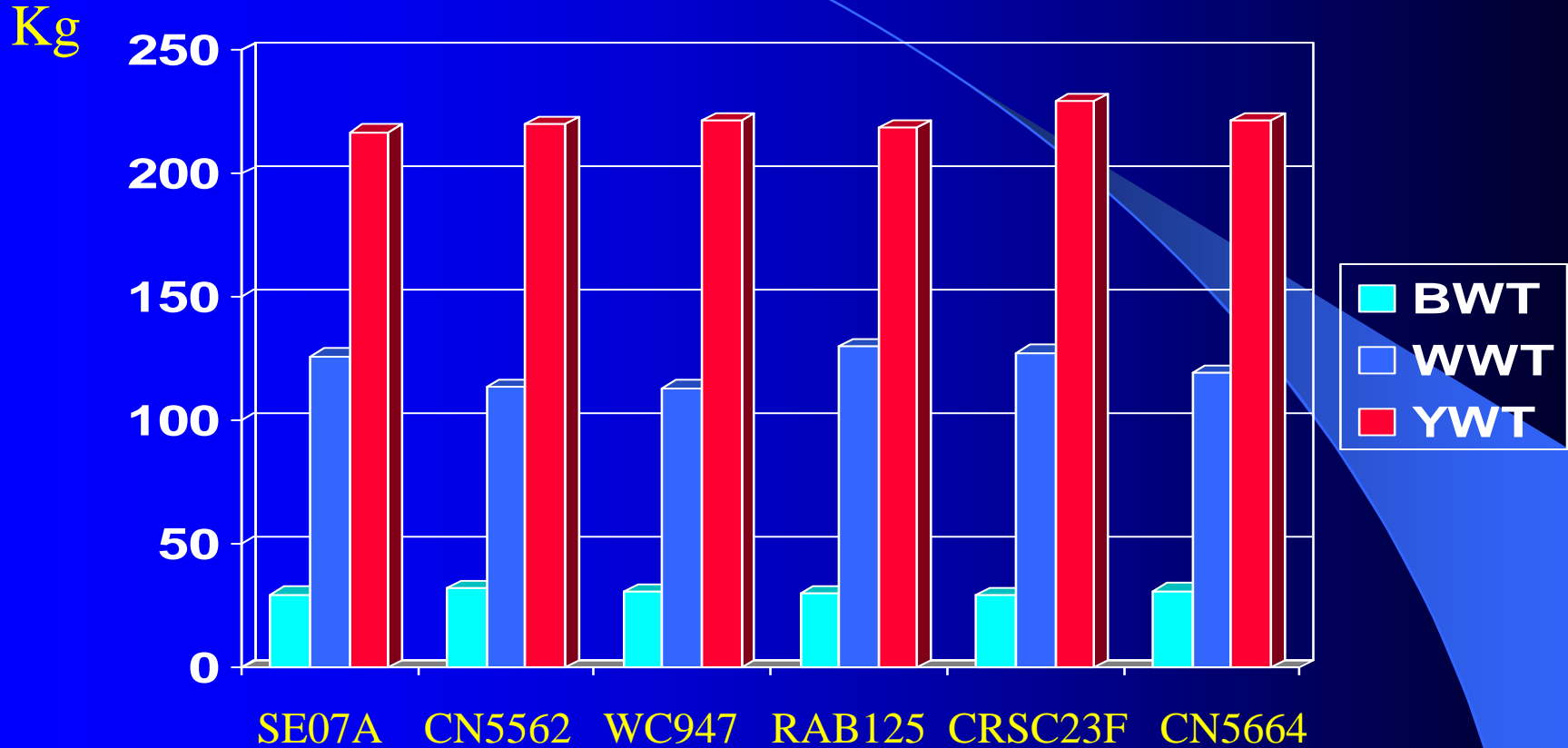
FARM	205-d wt kg	205-d ADG kg/d	365-d wt kg	365-d ADG kg/d
El Rincon	121.0  4.6 <sup>a</sup>	0.446  0.022 <sup>a</sup>	173.7  6.9	0.317  0.042
Puerto Nuevo	141.7  6.0	0.541  0.029	251.1  8.7 <sup>a</sup>	0.668  0.053 <sup>a</sup>
San Pedro	104.4  2.9	0.363  0.014	197.5  4.8	0.592  0.029 <sup>a</sup>
Yapacana	119.2  5.1 <sup>a</sup>	0.431  0.025 <sup>a</sup>	263.0  7.6 <sup>a</sup>	0.886  0.046

<sup>a</sup>Means without letter differ (P<0.01).

# ADJUSTED WEIGHTS BY SIRE BREED OF DAM

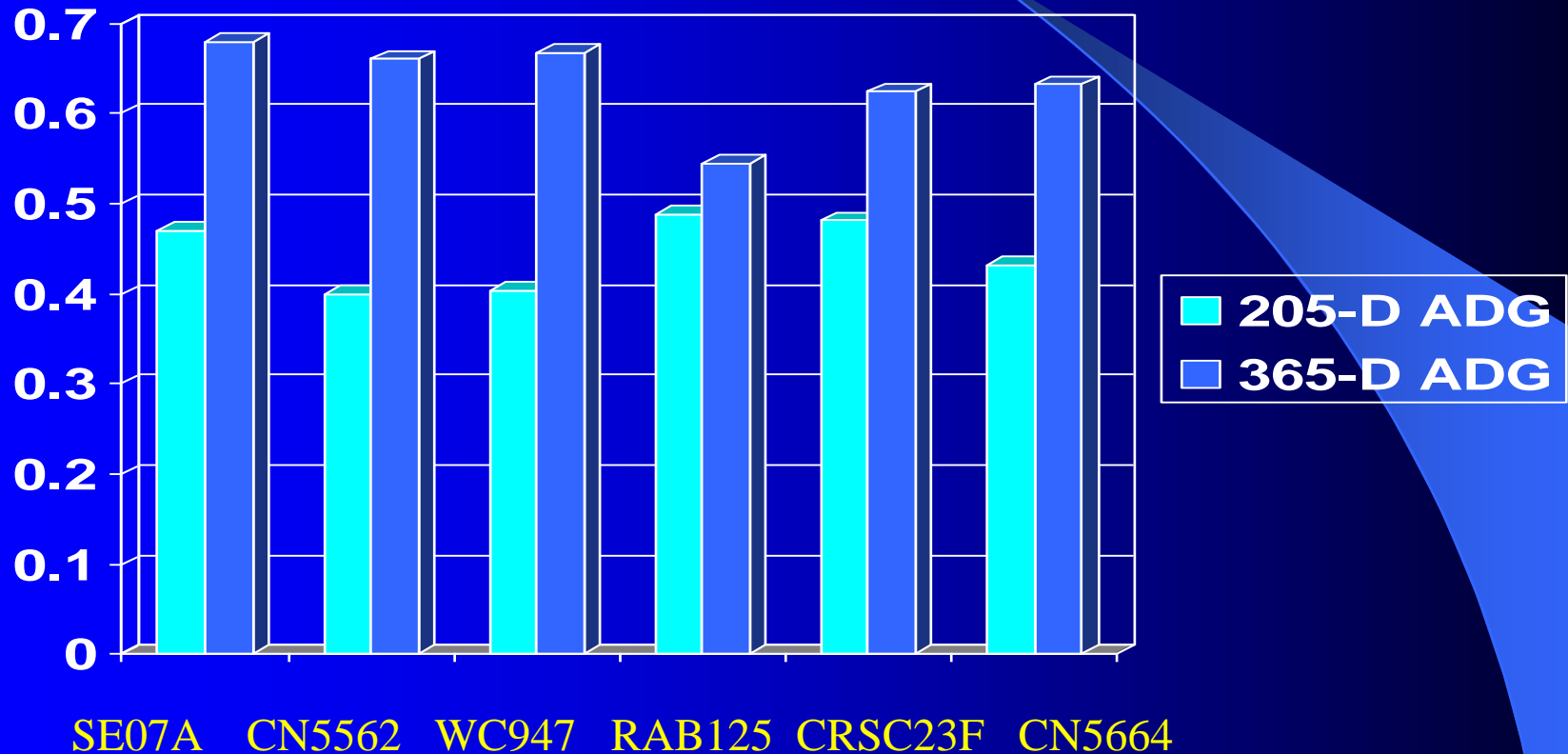


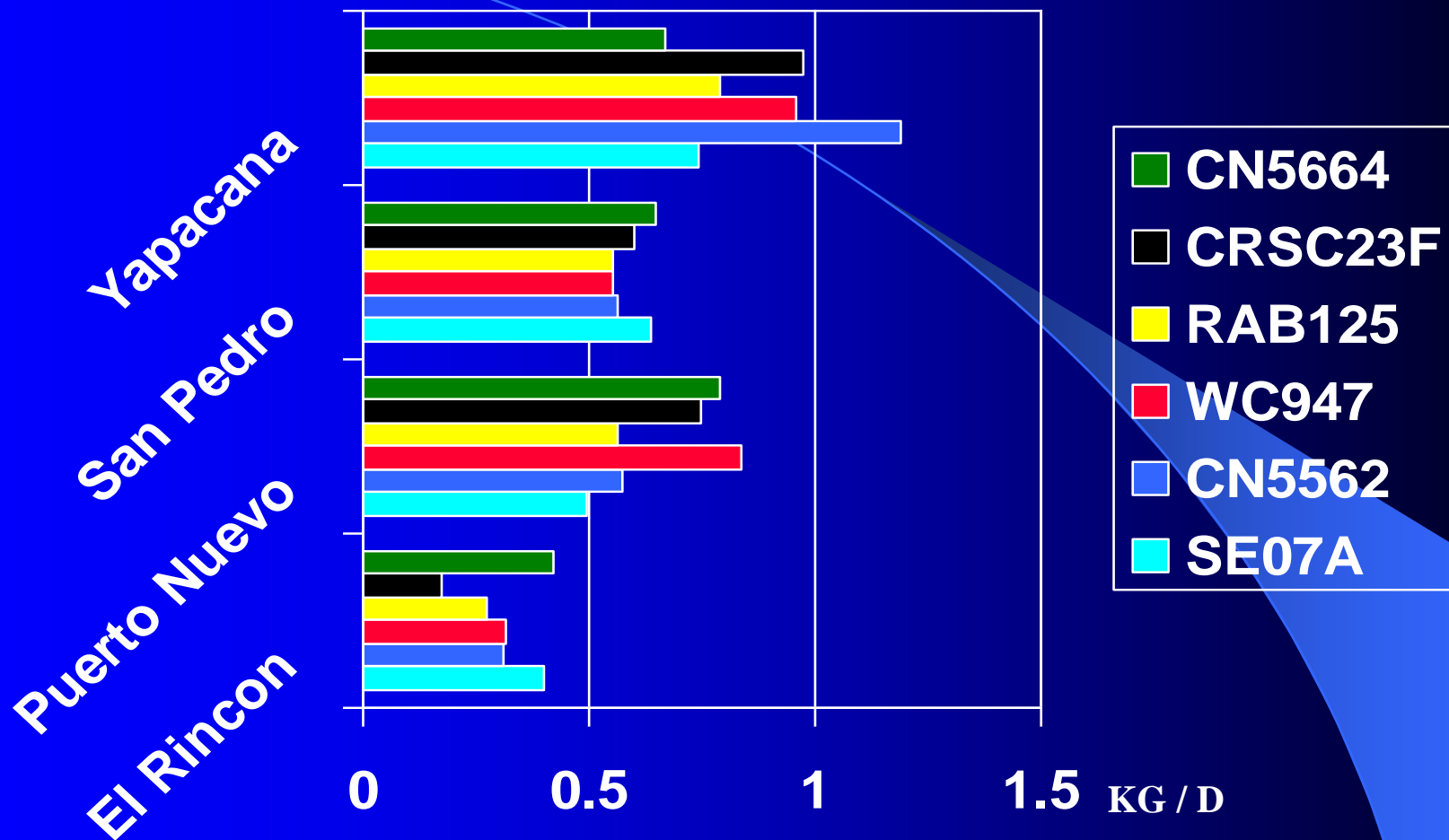
# CALF WEIGHTS BY SIRE



# AVERAGE DAILY GAINS BY SIRE

Kg/d













**YEARLING AVERAGE DAILY GAIN BY SIRE\*FARM INTERACTION**

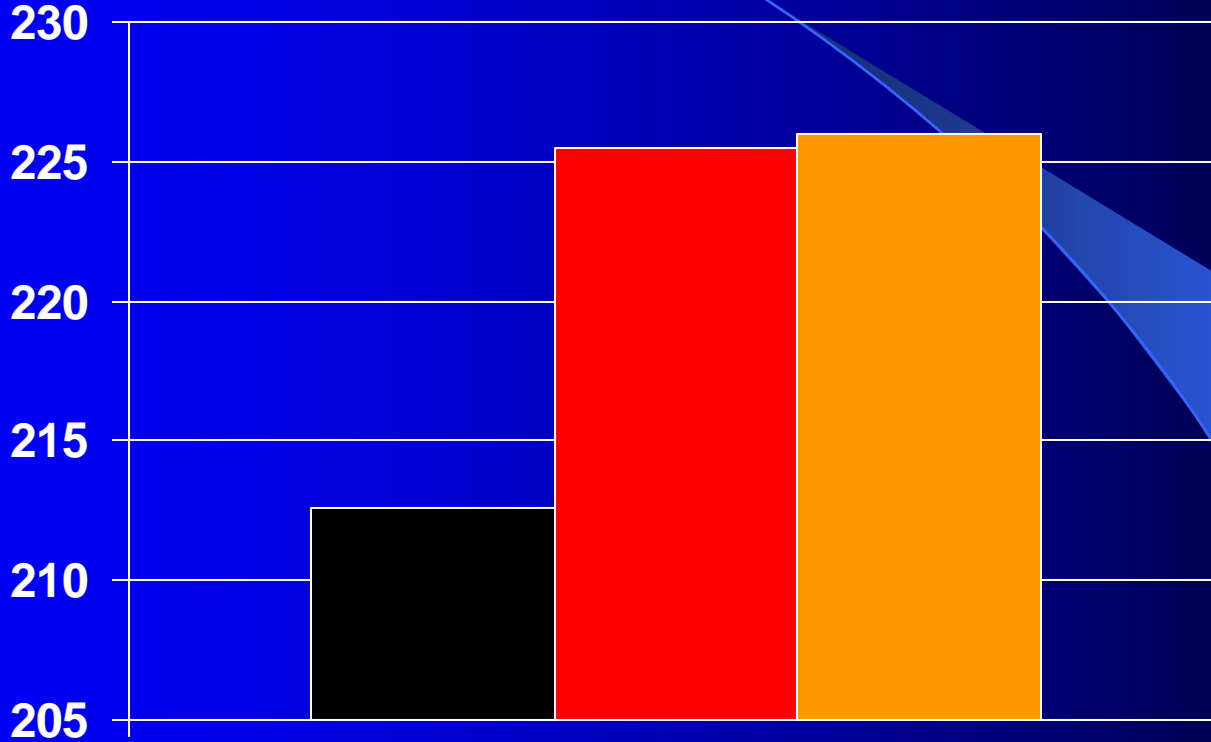


# GROWTH TRAITS BY SEX

SEX	205-d wt, kg	205-d ADG, kg/d	365-d wt, kg	365-d ADG, kg/d
Female	119.2  3.2	0.435  0.016	216.2  4.9 <sup>a</sup>	0.596  0.030 <sup>a</sup>
Male	123.9  3.3	0.456  0.016	226.4  5.1	0.635  0.031

<sup>a</sup>P < 0.05.

**KG**



**YEARLING WEIGHT BY HAIR  
COLOR OF THE CALF**

# WEANING RATE AND WEIGHT, AND PRODUCTIVITY OF THE COW<sup>1</sup> BY FARM

<b>FARM</b>	<b>Weaning rate %</b>	<b>Weaning weight kg</b>	<b>Cow productivity</b>	<b>Difference %</b>
El Rincon	92.8	133.7	124.1	-7.2
Puerto Nuevo	41.5	152.5	63.3	-58.5
San Pedro	88.4	112.6	99.5	-11.7
Yapacana	52.2	125.0	65.3	-47.7

<sup>1</sup>PCF = kg of calf weaned per cow exposed; weaning rate = pregnancy rate x survival rate









# CONCLUSIONS

- PRE- AND POSTWEANING GROWTH TRAITS DIFFERENCES WERE FOUND IN SENEPOL-SIRED CALVES INFLUENCED ( $P < 0.05$  to  $P < 0.001$ ) BY FARM, SIRE WITHIN BREED, SIRE\*FARM INTERACTION, SEX AND COLOR OF THE CALF.
- SIREs CN-5562 WITHIN FARM, AND CN-5564 BETWEEN FARMS WERE IDENTIFIED AS THE MOST TRANSMITTING BULLS FOR GROWTH OF THEIR PROGENIES.
- EXISTENCE OF IMPORTANT INTERACTIONS BETWEEN THE GENETICS POTENTIAL OF THE CALF FOR GROWTH AND DISTINCT PRODUCTION SYSTEMS IN WESTERN VENEZUELA, HIGHLY ASSOCIATED TO THE INFLUENCE OF THE SERVICE SIRE, IS REPORTED.
- THE HIGHER THE WEANING RATE, THE GREATER PRODUCTIVITY OF THE COW, IN TERMS OF TOTAL KG OF CALF WEANED PER COW EXPOSED WITHIN FARM.
- RESEARCH ON SENEPOL BEGINNING TO GENERATE IN VENEZUELA WILL HELP PRODUCERS DEMANDING OTHER BREED ALTERNATIVES FOR COMMERCIAL DUAL PURPOSE CATTLE OPERATIONS IN TROPICAL ENVIRONMENTS TO INCREASE PRODUCTIVITY OF THE NATIONAL HERDS.





WURACH

# AKNOWLEDGMENTS



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*Thanks a lot for inviting*

