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THE EFFECT OF BIRTH-WEIGHT ON GROWTH PERFORMANCE AND MEAT QUALITY IN IBERIAN PIGS

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WHY IS THIS INTERESTING?

The variability of Birth-Weight (BIW) in lean commercial swine breeds is known to cause lack of homogeneity in growth patterns and meat quality affecting profitability.

This may be more severe in fatty and traditional breeds because of its lower reproductive and productive parameters, but there is scarce information for these breeds.

WHAT HAVE WE DONE?

Evaluation of BIW effect on postnatal growth and on carcass and meat quality in fatty pigs as Iberian pigs.

KEY IDEAS

Despite catch-up growth, pigs with LIGHTER BIW showed

a WORSE DEVELOPMENT during the growing-fattening phase

and LOWER CARCASS AND MEAT QUALITY than heavier pigs.

FEMALES showed LESS GROWTH and MEAT QUALITY than males.

HOW HAVE WE DONE IT?

BIRTH

Iberian x Duroc crossbred piglets



♀ 120
♂ 120

Distributed by Sex & BIW
12 pigs/pen

GROWING- FATTENING PHASE

From 72 days-old

SLAUGHTER

≈150 kg



MEAT QUALITY

Logissimus dorsi

Fatty Acids (FA) in

Intramuscular Fat (IMF)

Neutral Fraction (triglycerides) & Polar Fraction (phospholipids)

Very Low BIW pigs (<1.0 kg)

Low BIW pigs (1.00-1.2 kg)

Average BIW pigs (≥1.2 kg)

FEED CONVERSION RATE (FCR; kg/kg, each 5w)

AVERAGE DAILY WEIGHT GAIN (ADWG)

AGE

CARCASS QUALITY

Carcass Length

WHAT HAVE WE FOUND?

FCR

At 110 days-old

Low
Very Low BIW pigs

showed a catch-up growth

$P < 0.0001$

At 150, 180 & 210 days-old

Low
Average BIW pigs

Very Low BIW pigs

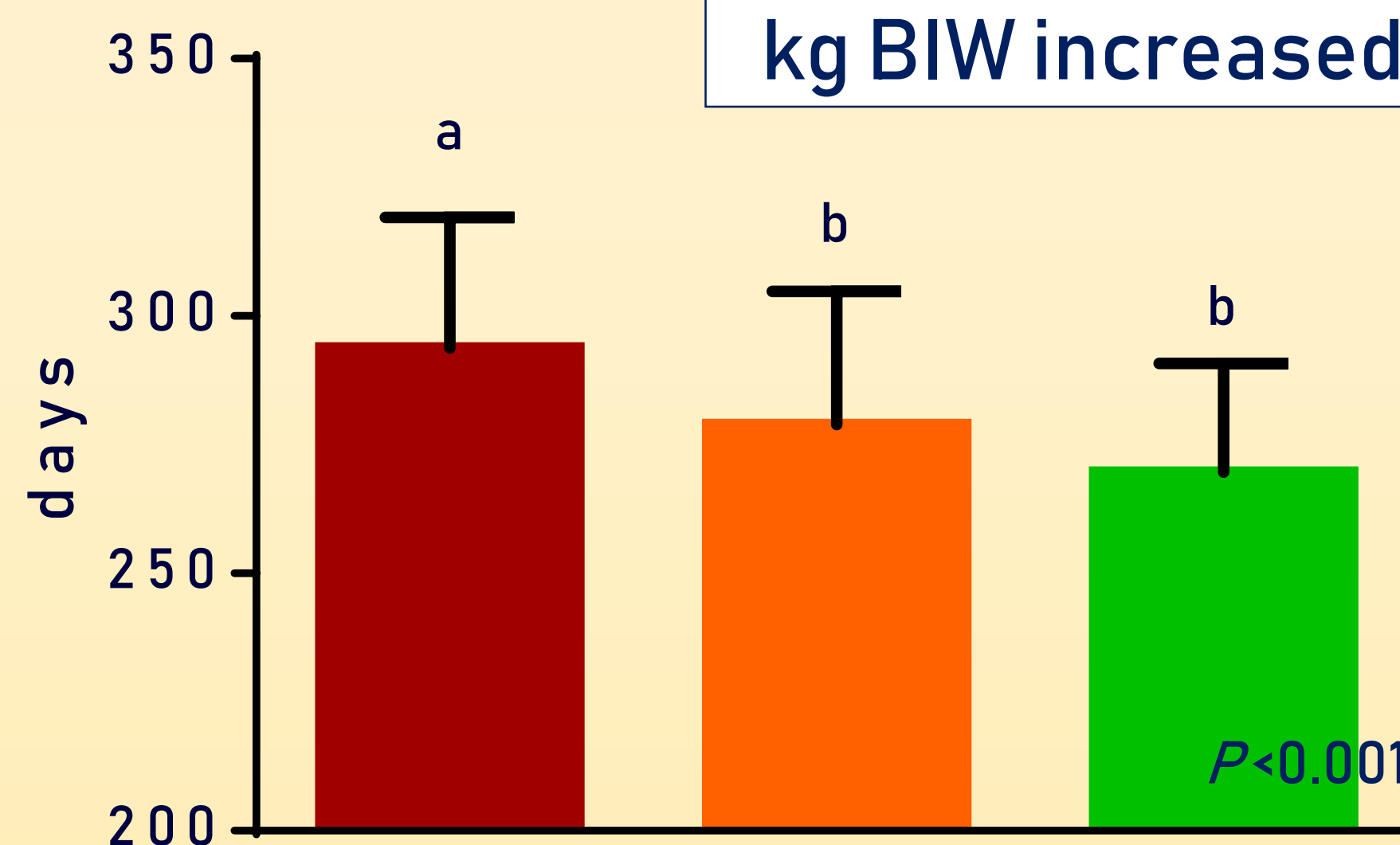
$P < 0.05$

Very low BIW ♀ → The highest FCR

$P < 0.05$

Age to slaughter

Decreases 28 d/
kg BIW increased



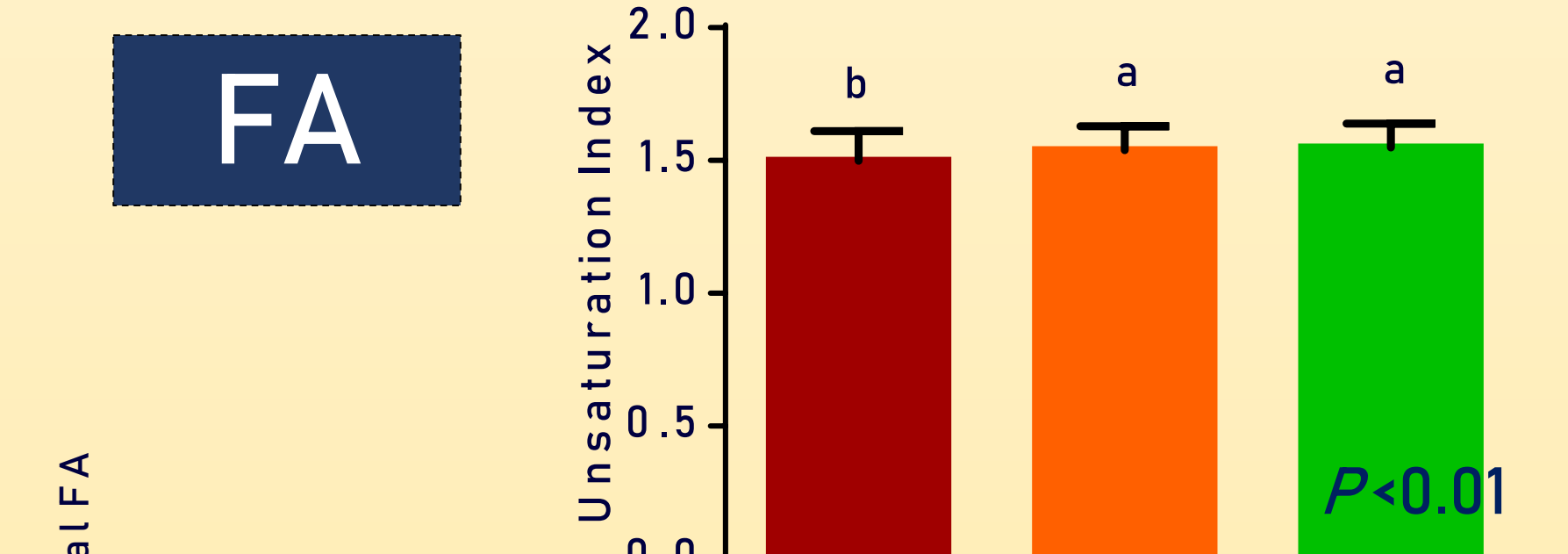
IMF

Very Low
Low
BIW pigs

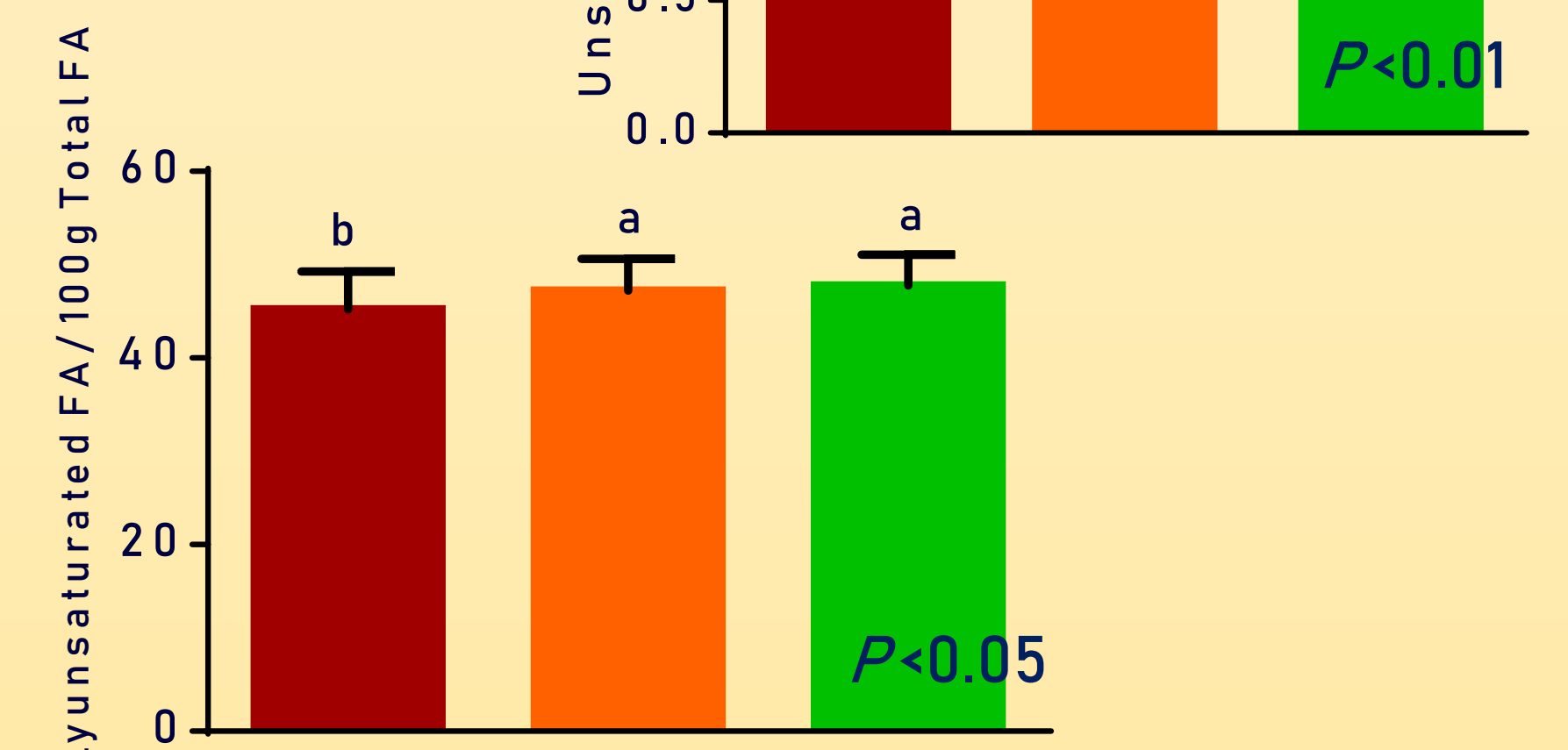
Average
BIW pigs

$P < 0.05$

FA



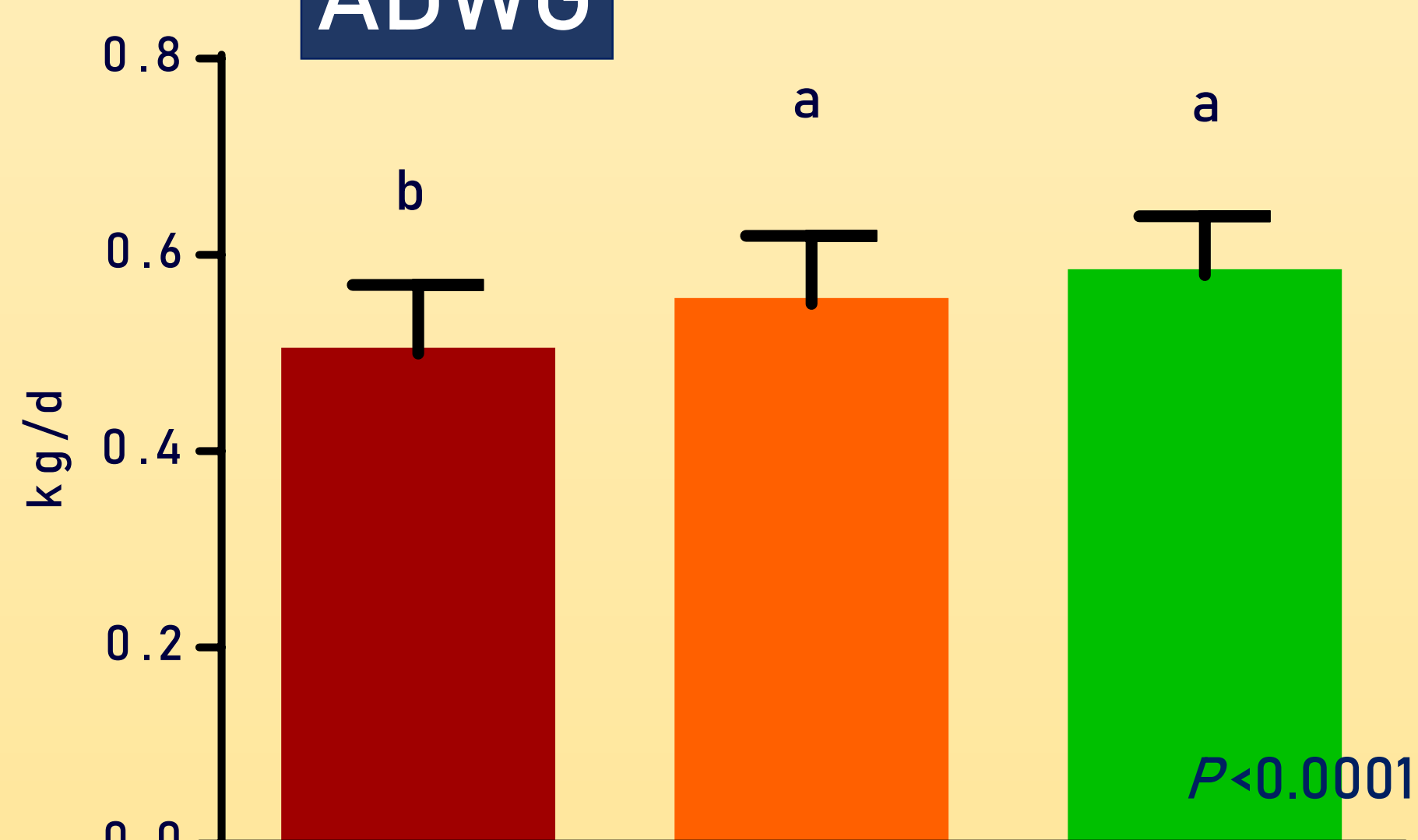
PHOSPHOLIPIDS



TRIGLYCERIDES

♂ ↑ Monounsaturated FA
↓ Saturated FA
 $P < 0.05$

ADWG



Carcass Length

