



Can feed manipulations turn breeders to better mothers?

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Problem

- Traditional feed restriction limits body weight
- Does not address the increased breast muscle genetic potential
- Genetic progress over time



1957



1977



Today

- 'Composition restriction' through changes to the protein: energy ratio
- Increase hen fat stores while limiting breast muscle deposition
- For better support of egg production

How did we do it?

Rearing Phase (3-23 wk)



FED

LEr (2,650 kcal/kg)
SEr (2,800 kcal/kg)
HEr (2,950 kcal/kg)

LPr (14% CP)
HPr (16% CP)

H=High S=Standard L=Low

Breeding phase(24-60 wk)



FED

LEb (2,800 kcal/kg)
HEb(2,900 kcal/kg)

LPb (14.5% CP)
HPb (15.5% CP)

- Egg grade and weight recorded individually

What Happened?

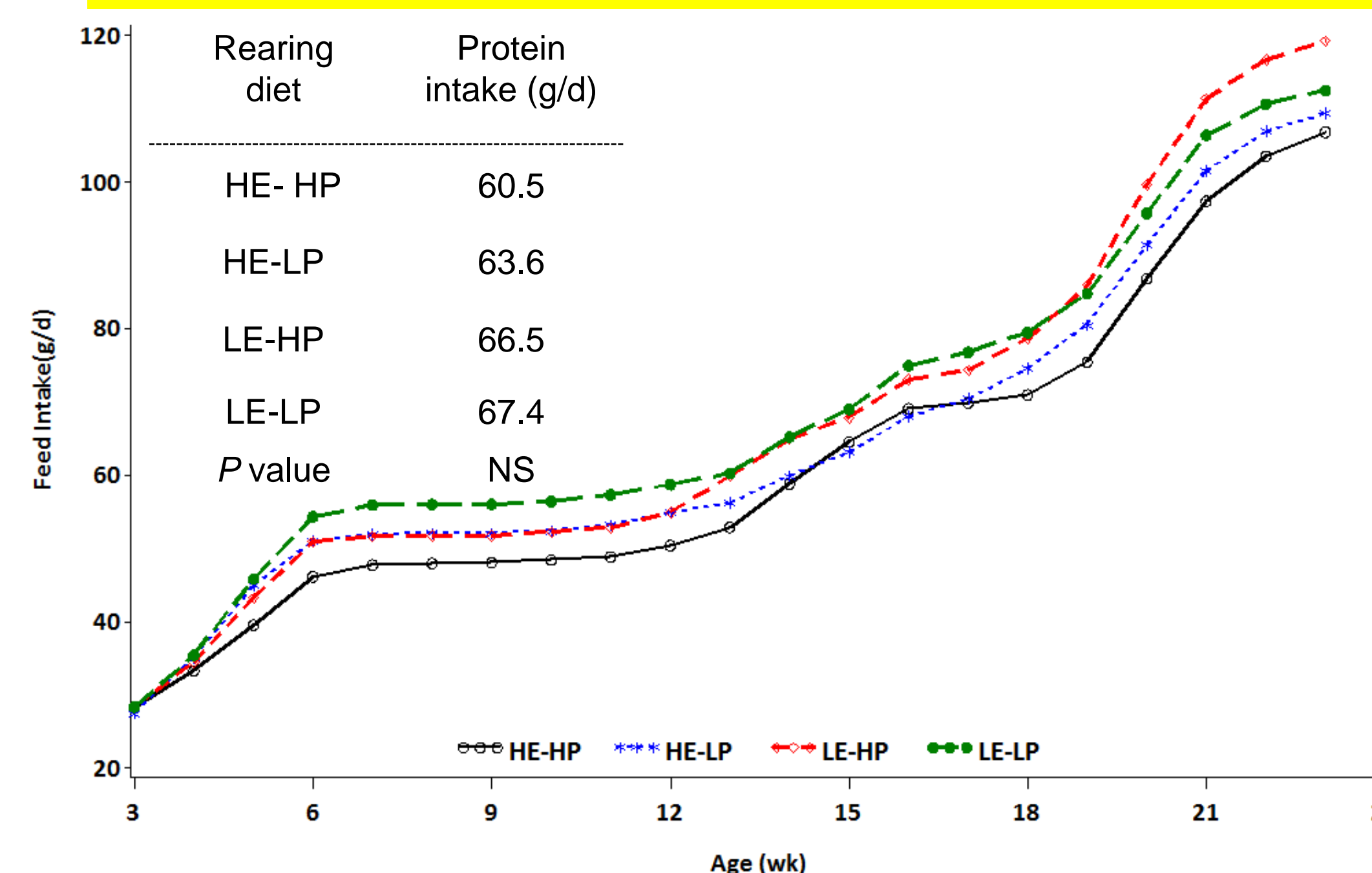


Fig 1. Effect of rearing diet on feed intake

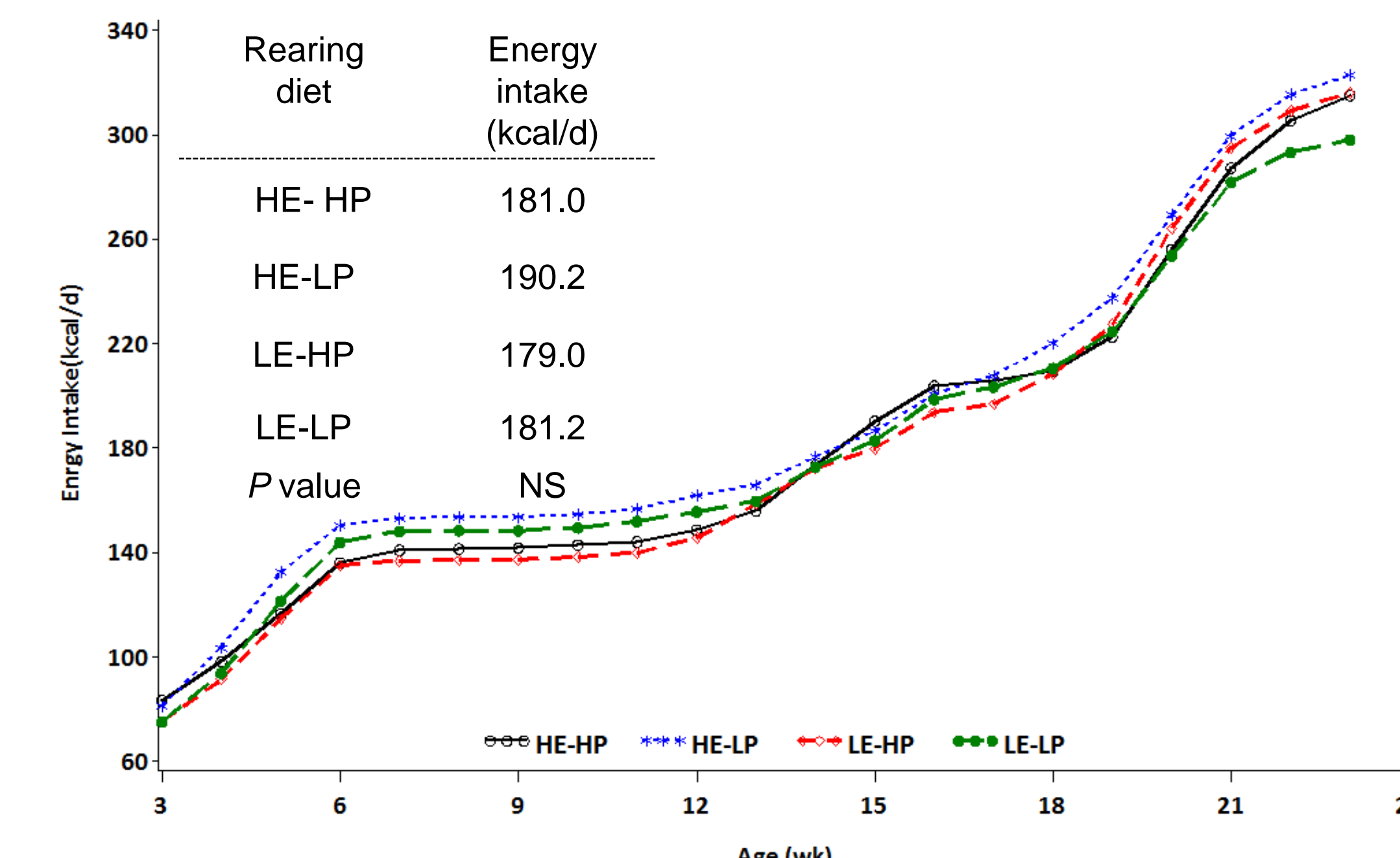


Fig 2. Effect of rearing diet on energy intake

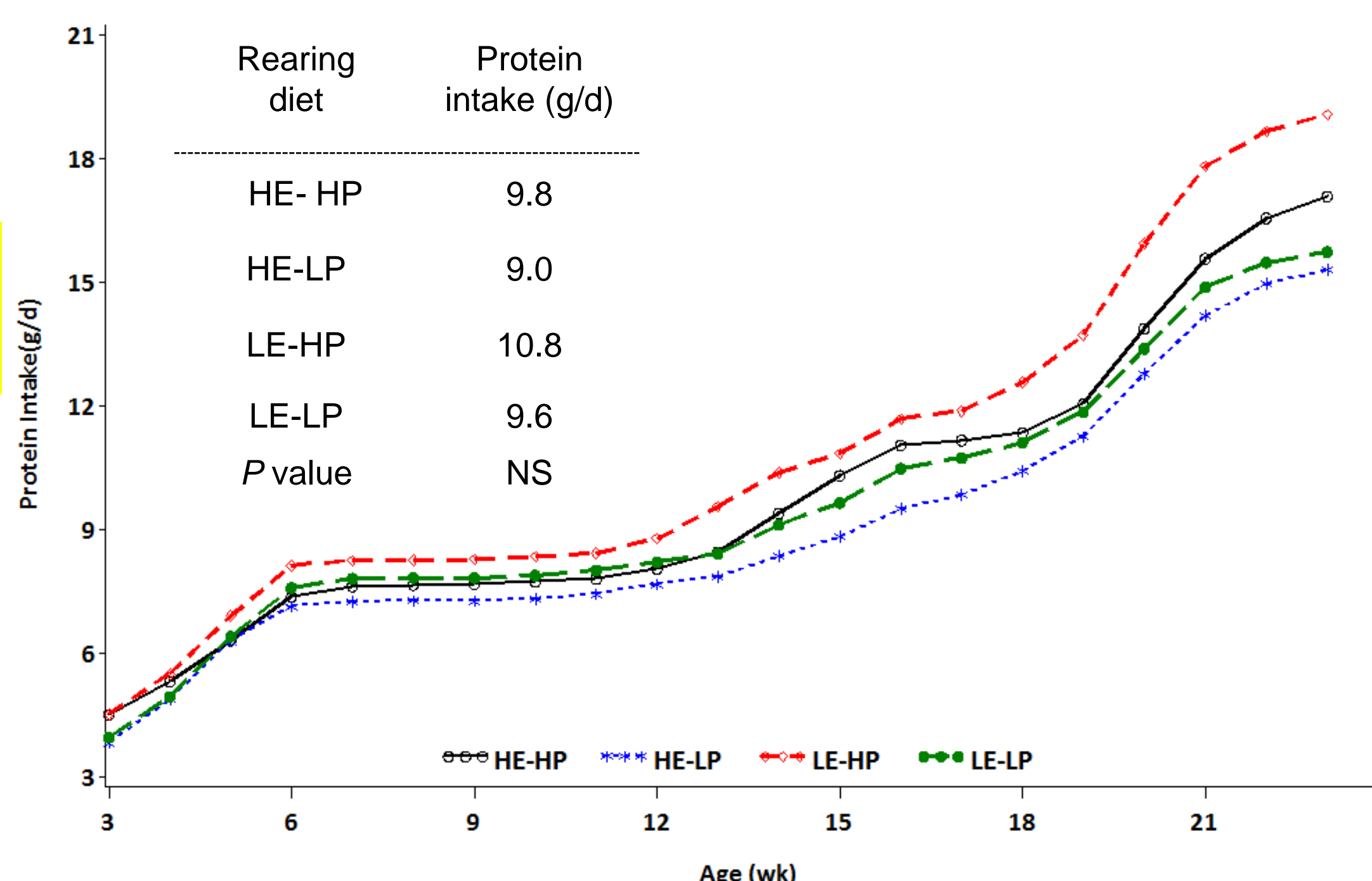


Fig 3. Effect of rearing diet on protein intake

Table 1. Effect of rearing diet on carcass composition and egg production

Rearing diet	Breast (BW%)	Fatpad (BW%)	Total egg (n)	Settable egg (n)
HE- HP	21.2	0.53	159.0 ^c	148.9 ^b
HE-LP	20.0	0.76	170.8 ^a	161.3 ^a
LE-HP	21.1	0.50	166.5 ^{abc}	156.1 ^{ab}
LE-LP	20.3	0.69	161.7 ^{bc}	148.8 ^b
P value	NS	NS	0.01	0.002

- Feed allocation was influenced by dietary energy and protein (fig 1).
- Attention to nutrient intake is more important than dietary composition (fig 2 and fig 3).
- Boiler breeder pullets had higher calories and lower protein intake (HE-LP) during rearing phase produce more eggs than HE-HP and LE-LP birds (Table 1).

Acknowledgments



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