

STUDY ON LONGEVITY OF HEREFORD COWS COMPARED TO OTHER BREEDS IN HUNGARY

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HEREFORD



HUNGARIAN GREY



ANGUS





SIMMENTAL



LIMOUSIN



BLONDE D' AQUITAINE



CHAROLAIS

Longevity of a beef cows

defined as **length of productive life**,
from first calving to culling

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- decreases the culling rate,
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- decreases the annual costs of replacements,
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Heritability (h^2)

of longevity = 0.02-0.20.

STUDY FOR LONGEVITY

(TWO PARTS)

The aim of the study

First part: to evaluate the

- age at first calving,
- age at culling,
- longevity of beef cows

Second part: to predict
the expected longevity

In the first part of the study

Data of ***culled cows*** were collected at breeders associations for different breeds

Multivariate analysis of variance, SPSS for Windows, 11.5 were used for evaluation



Hereford



Angus



Hungarian Grey



Charolais

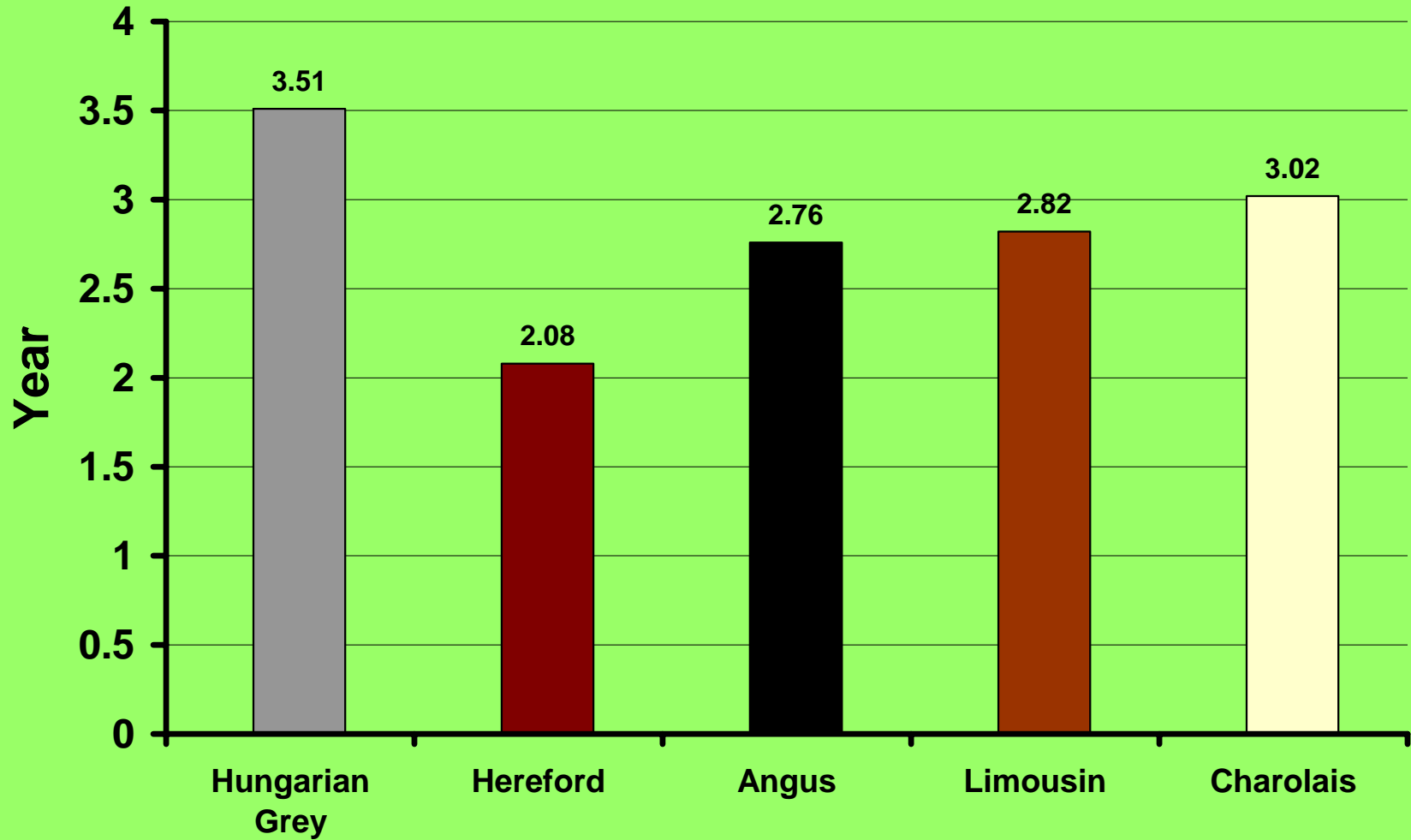


Limousin

The number of cows

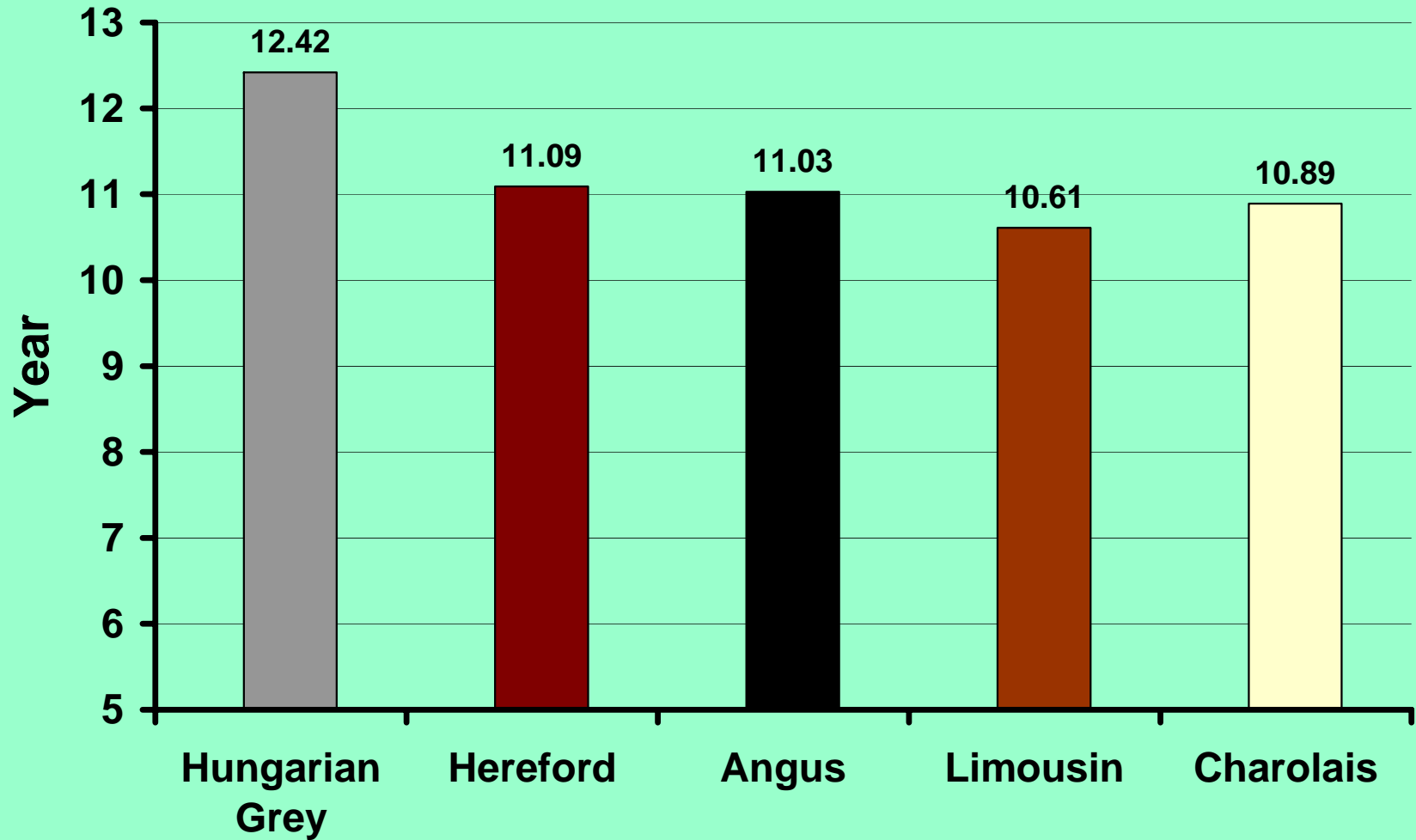
Hungarian Grey	254
Hereford	198
Angus	183
Limousin	491
Charolais	521

Age at first calving



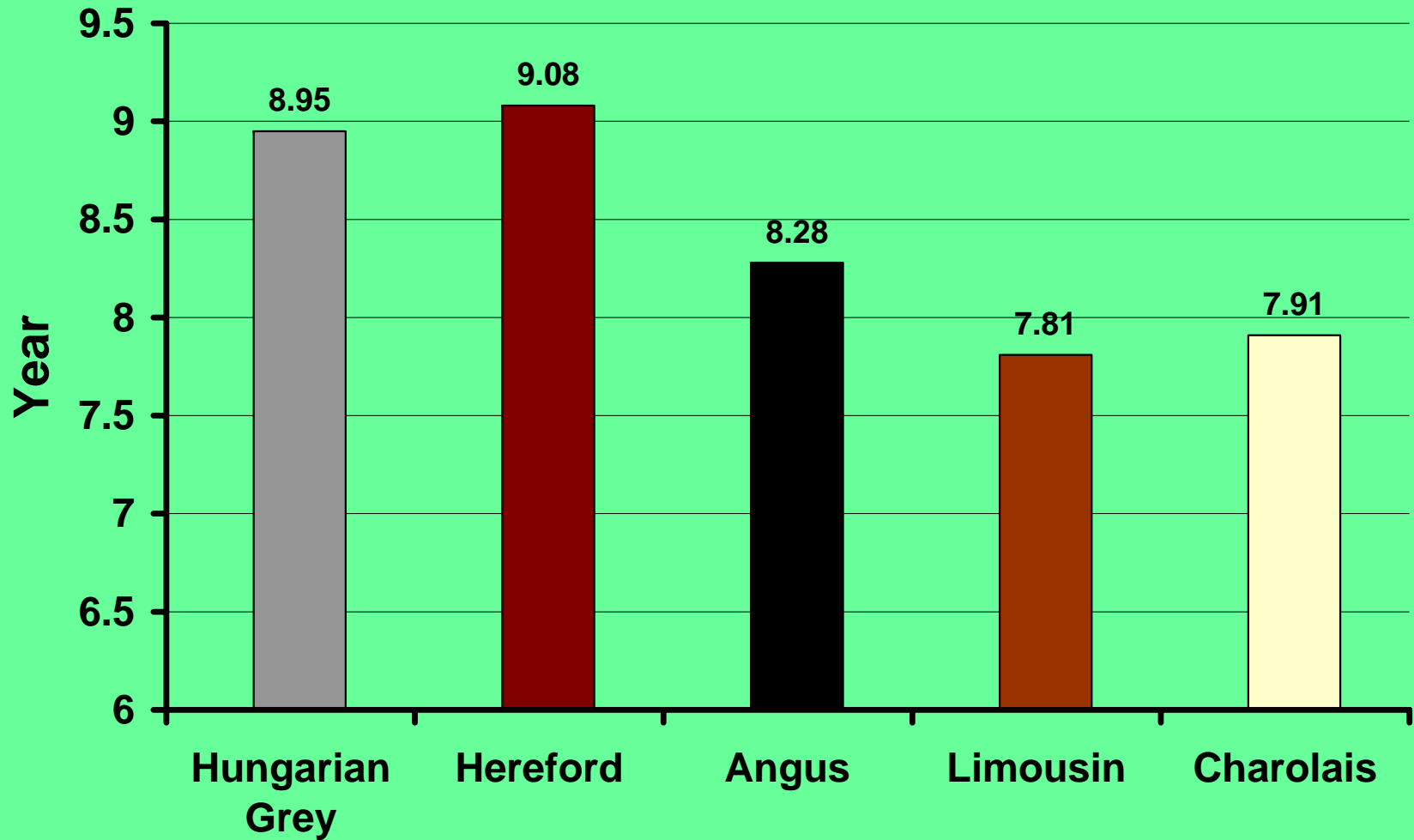
(P<0.05)

Age at culling



($P < 0.05$)

Longevity of cows



($P < 0.05$)

In the second part of the study

Estimation was done

Longevity was estimated

Data of 300-300 randomly sampled cows of different breeds were used



HEREFORD



ANGUS



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CHAROLAIS

**Cox regression was used for prediction
(Cox 1972)**

60 % of cows culled (uncensored)

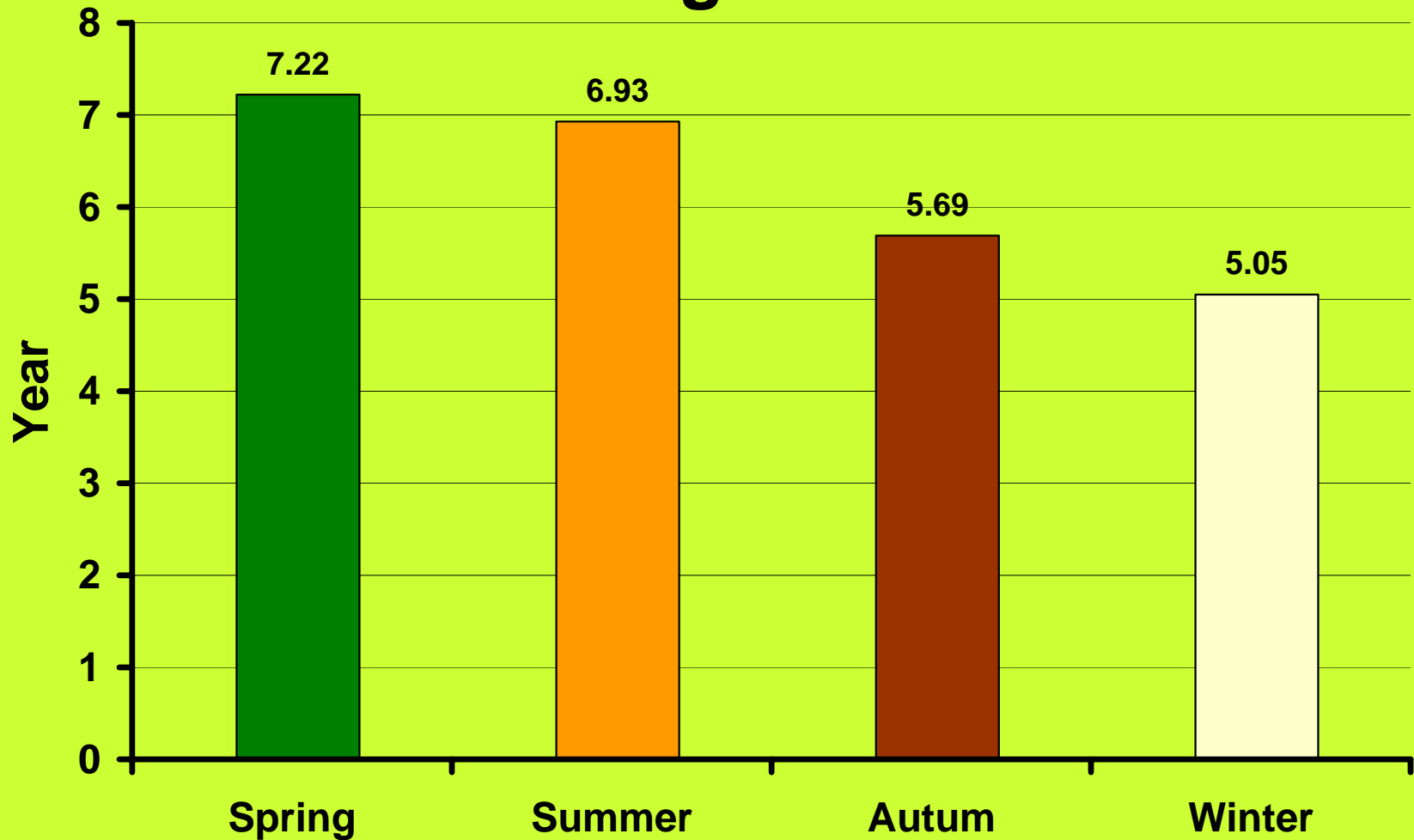
40% of cows in herd (censored)

**Survival $[s](t)$ function and
Hazard $[h](t)$ function was estimated.**

Estimated effects

Herd	no significant
Age at first calving	no significant
Season of calving	P<0.05
Calving difficulty	P<0.05
Sex of calves	no significant
Weaning weight	no significant
Breed	P<0.05

Estimated longevity of cows according to calving season

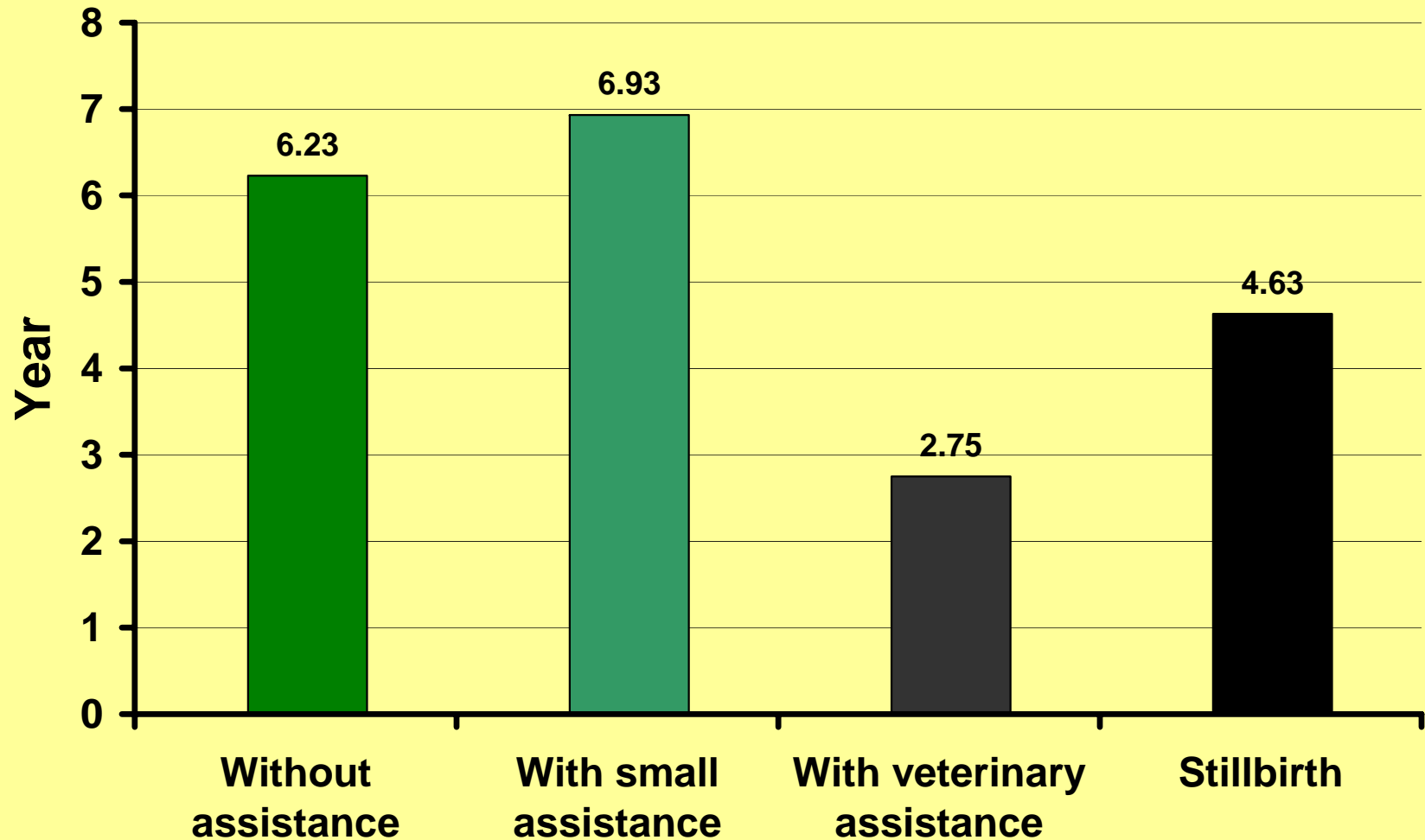


($P < 0.05$)

Ratio of spring and autumn calving

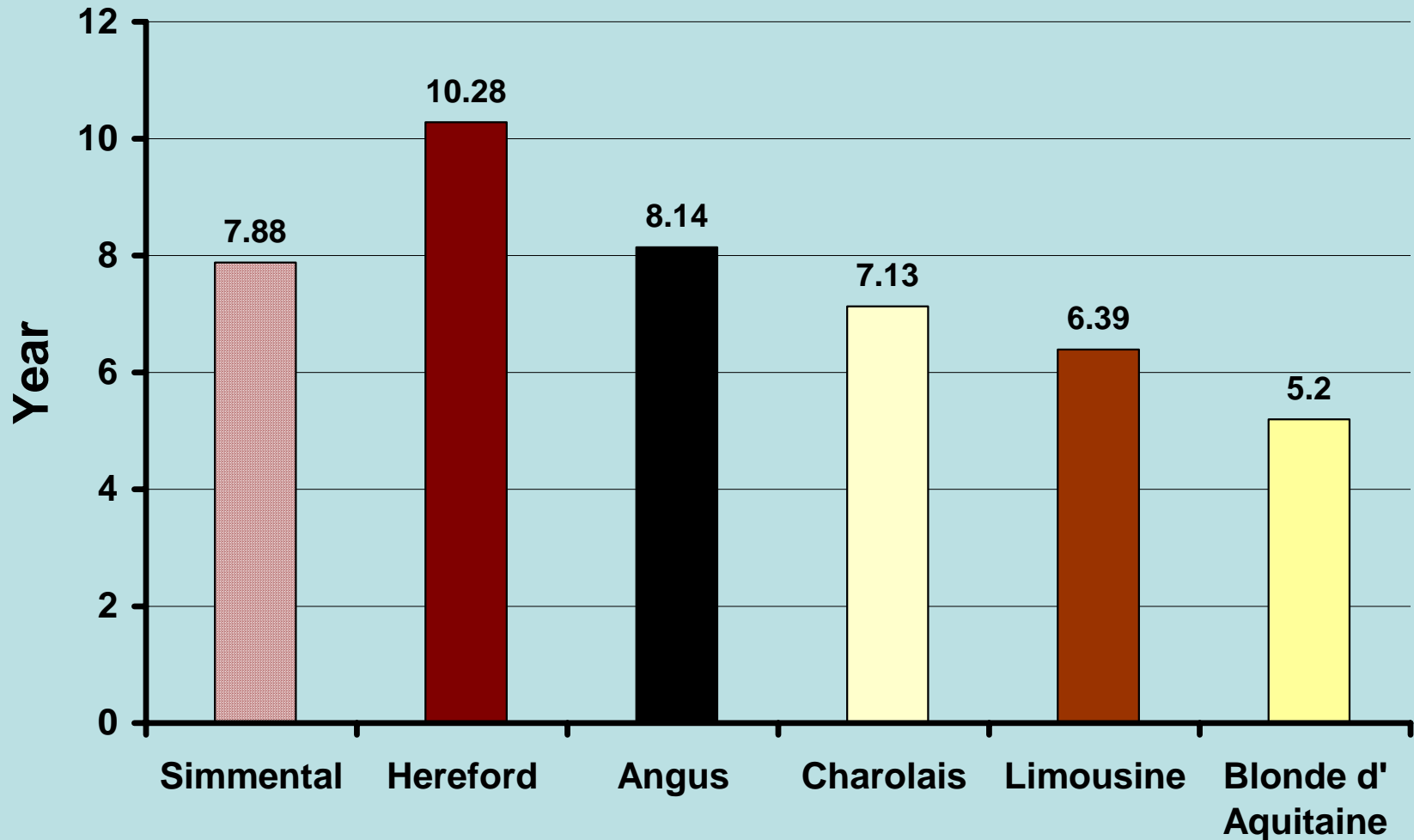
Breed	Number of calvings	Late Winter and Spring	Summer and Autumn
		calving	
		%	%
Hungarian Grey	3 578	95.3	4.7
Simmental(Fleckvieh)	8 364	58.2	41.8
Angus	1 967	72.7	27.3
Hereford	963	91.7	8.3
Charolais	1 754	71.4	28.6
Limousin	1 691	62.6	37.4
Total	18 317	75.3	24.7

Estimated longevity of cows of different level of calving difficulty



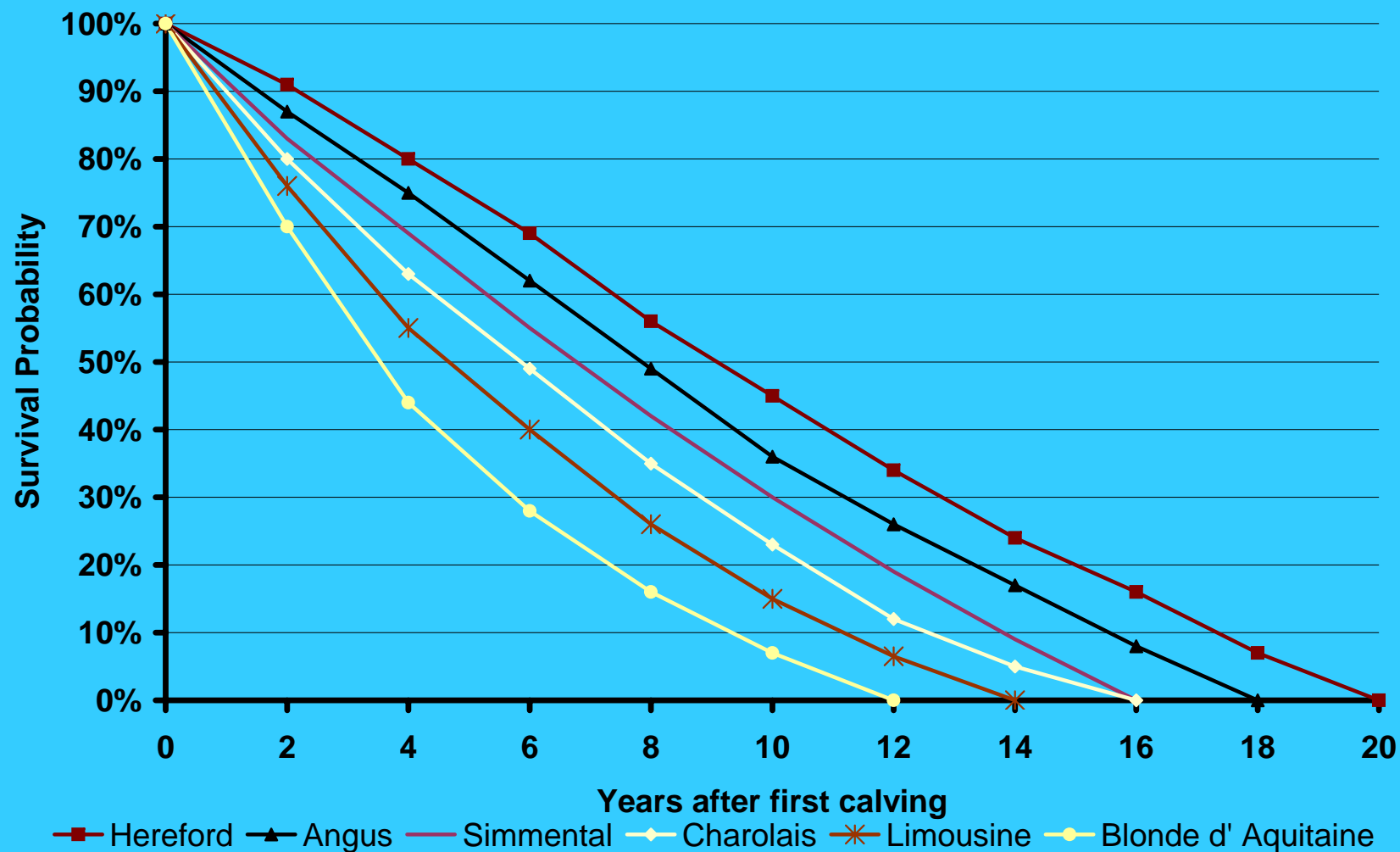
(P<0.05)

Estimated (predicted) longevity of cows of different breeds



($P < 0.05$)

Estimated survival distribution by breed



Conclusion

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