

Singlestep vs current evaluation for Type traits - with focus on udder

Assumptions

Blending of foreign information in the reference group

Genotype cut by birth class 2005

Genotypes for older animals excluded

STØTTET AF

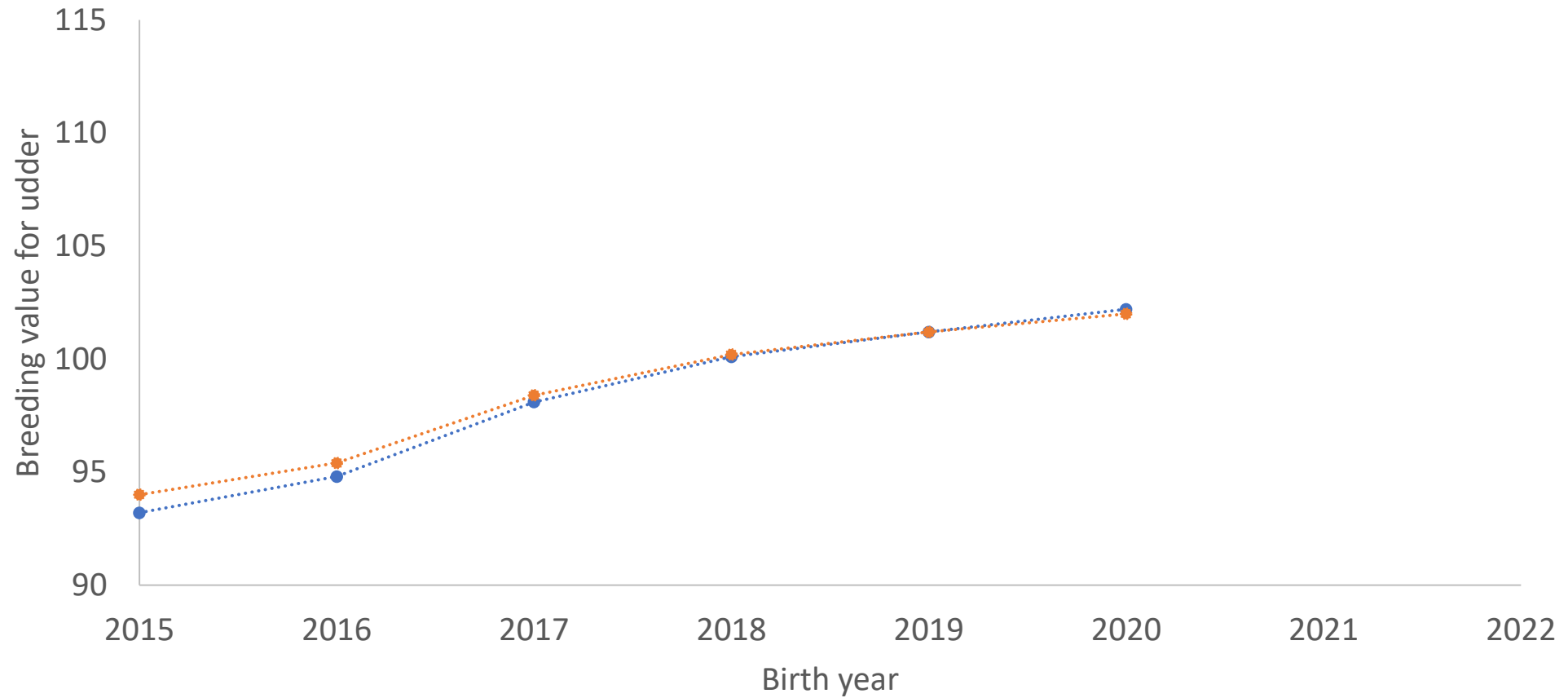
Mælkeafgiftsfonden

SEGES
INNOVATION

Results

- Three groups of animals
 - Nongenotyped cows
 - Genotyped females
 - AI bulls
- Results as
 - Genetic trend
 - Correlations
 - Distribution of differences

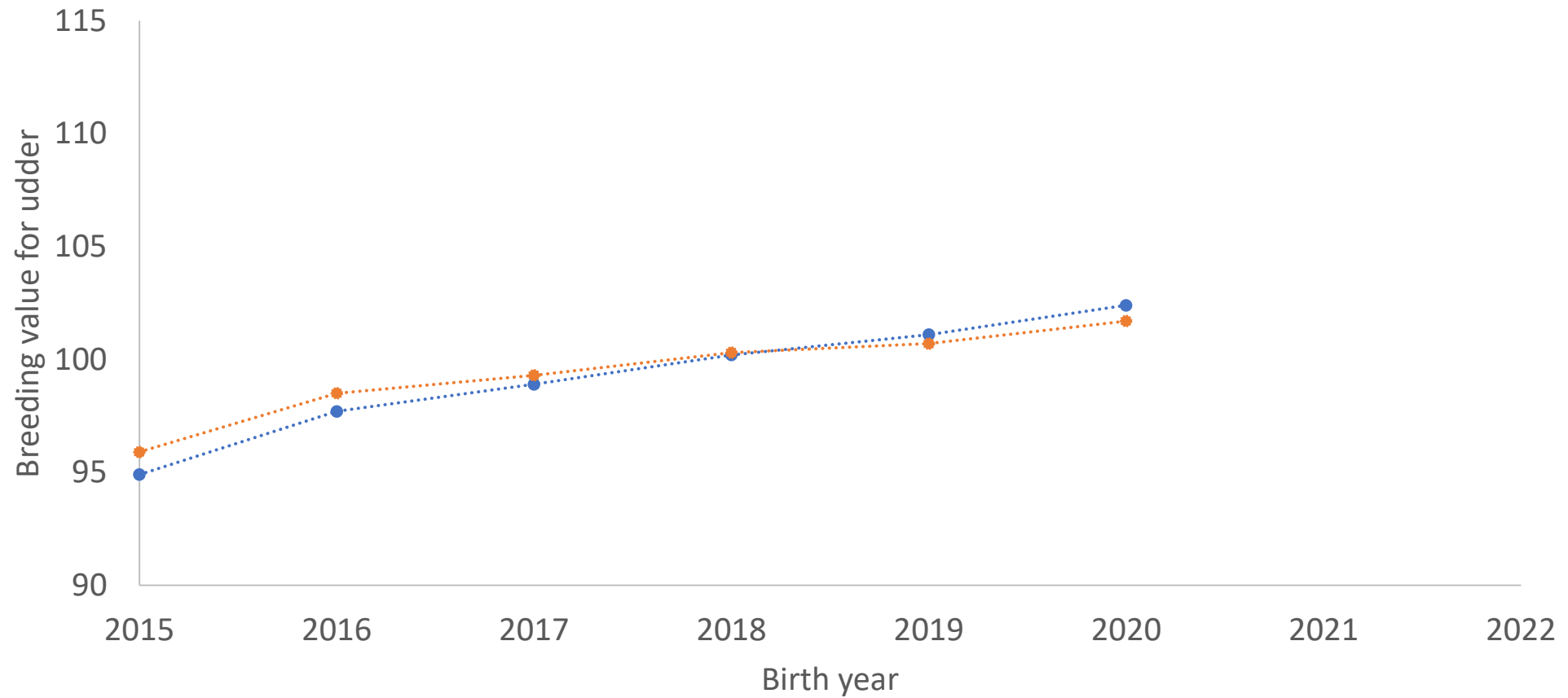
HOL nongenotyped cows - udder



..... SingleStep nongenotyped females with record

..... Official nongenotyped females with record

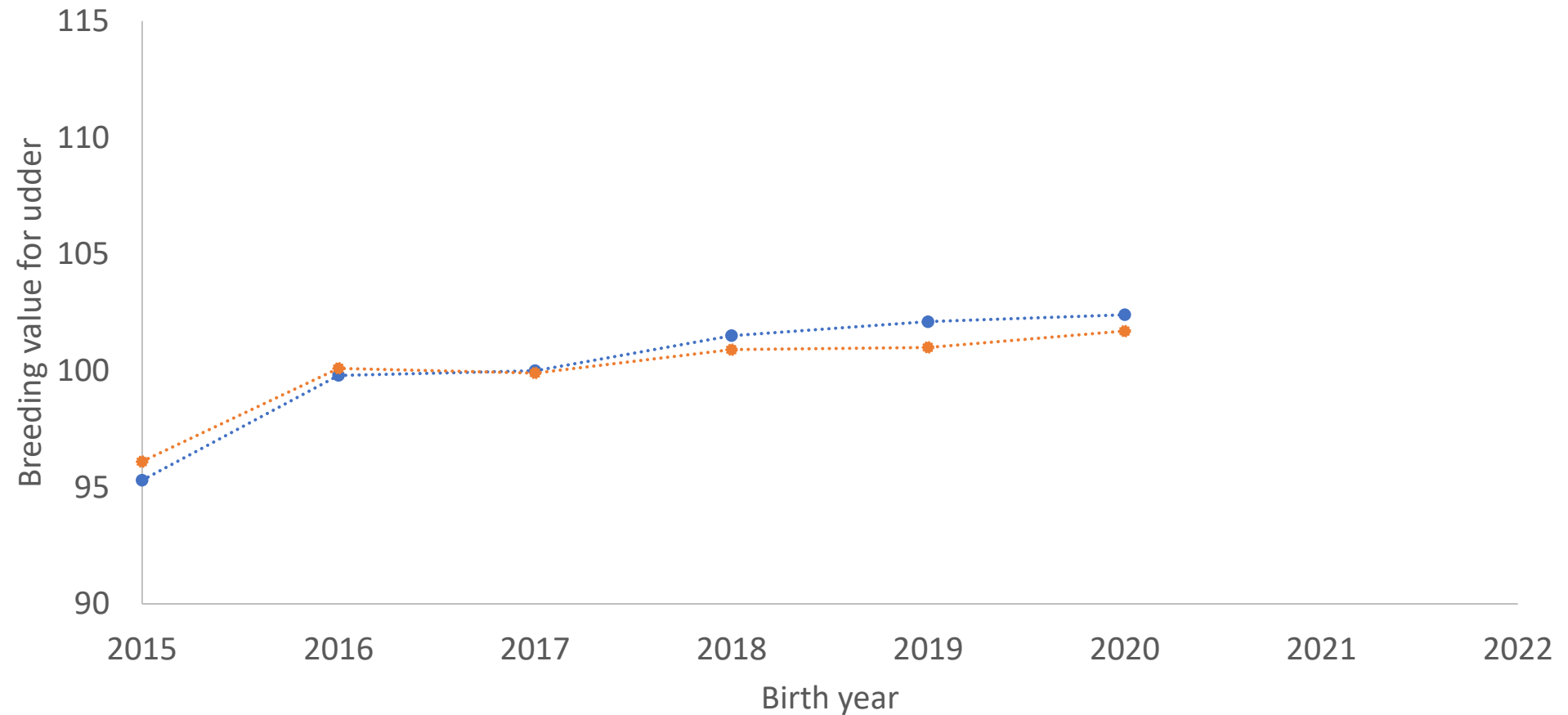
RDC nongenotyped cows - udder



..... SingleStep nongenotyped females with record

..... Official nongenotyped females with record

JER nongenotyped cows - udder



..... SingleStep nongenotyped females with record

..... Official nongenotyped females with record

HOL nongenotyped cows - udder

Correlations

within birth year

With record

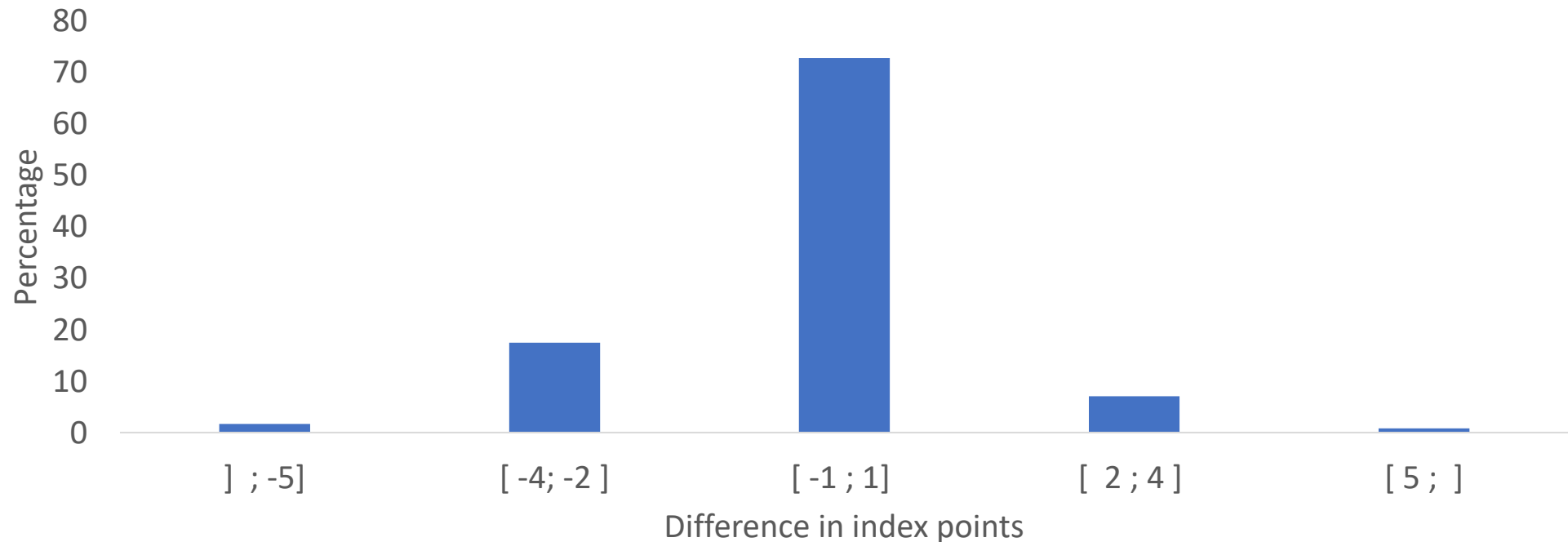
Birth year

2015 - 2020

udder

0.96 - 0.98

Distribution of differences for females born ≥ 2015



RDC nongenotyped cows - udder

Correlations

within birth year

With record

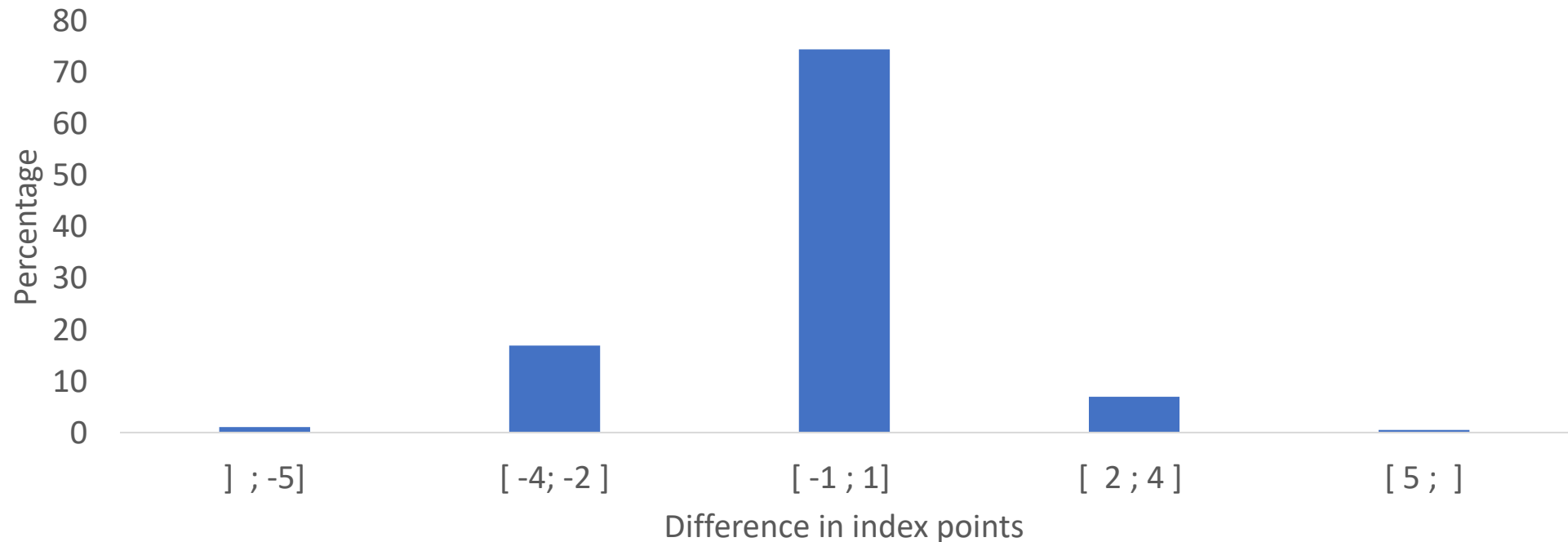
Birth year

2015 - 2020

udder

0.97 - 0.98

Distribution of differences for females born ≥ 2015

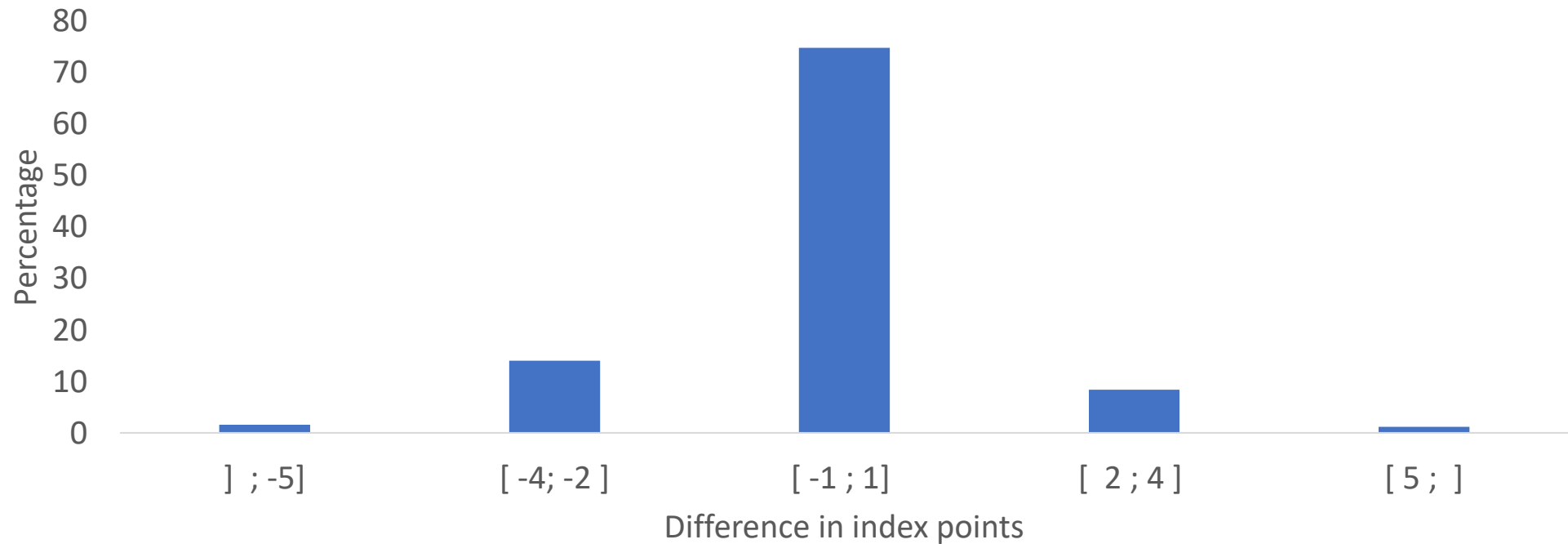


JER nongenotyped cows - udder

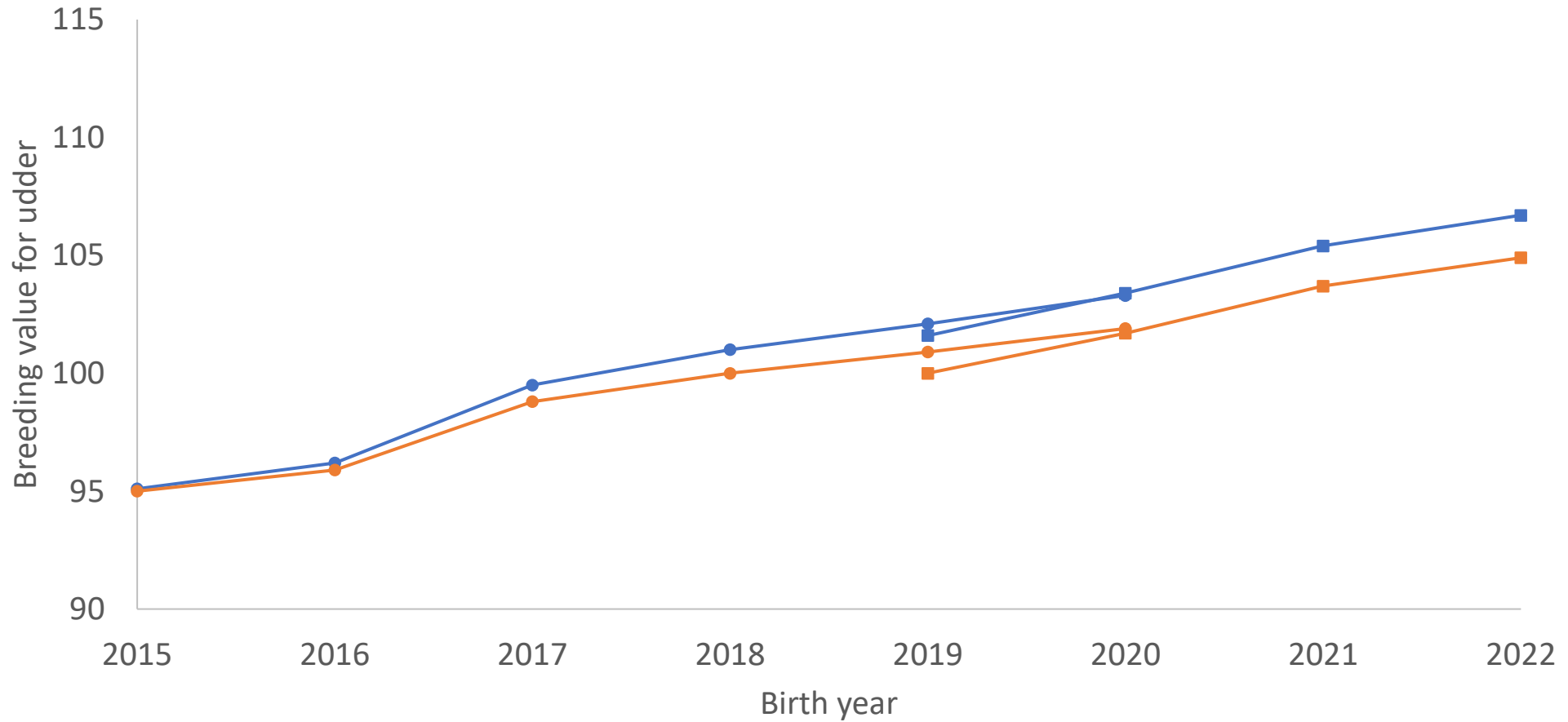
Correlations
within birth year

Birth year udder
With record 2015 - 2020 0.97 - 0.98

Distribution of differences for females born ≥ 2015



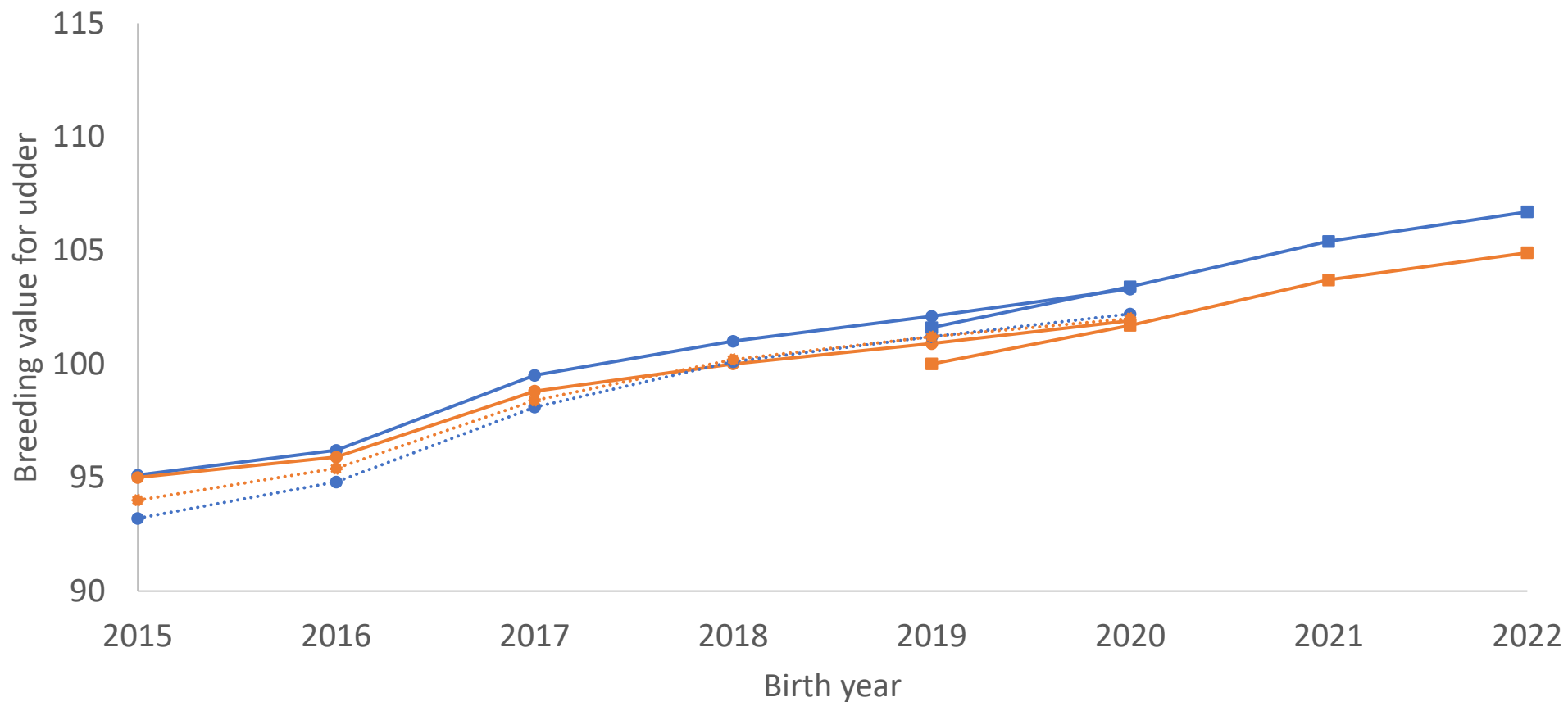
HOL genotyped females - udder



● SingleStep genotyped females with record
■ SingleStep genotyped females without record

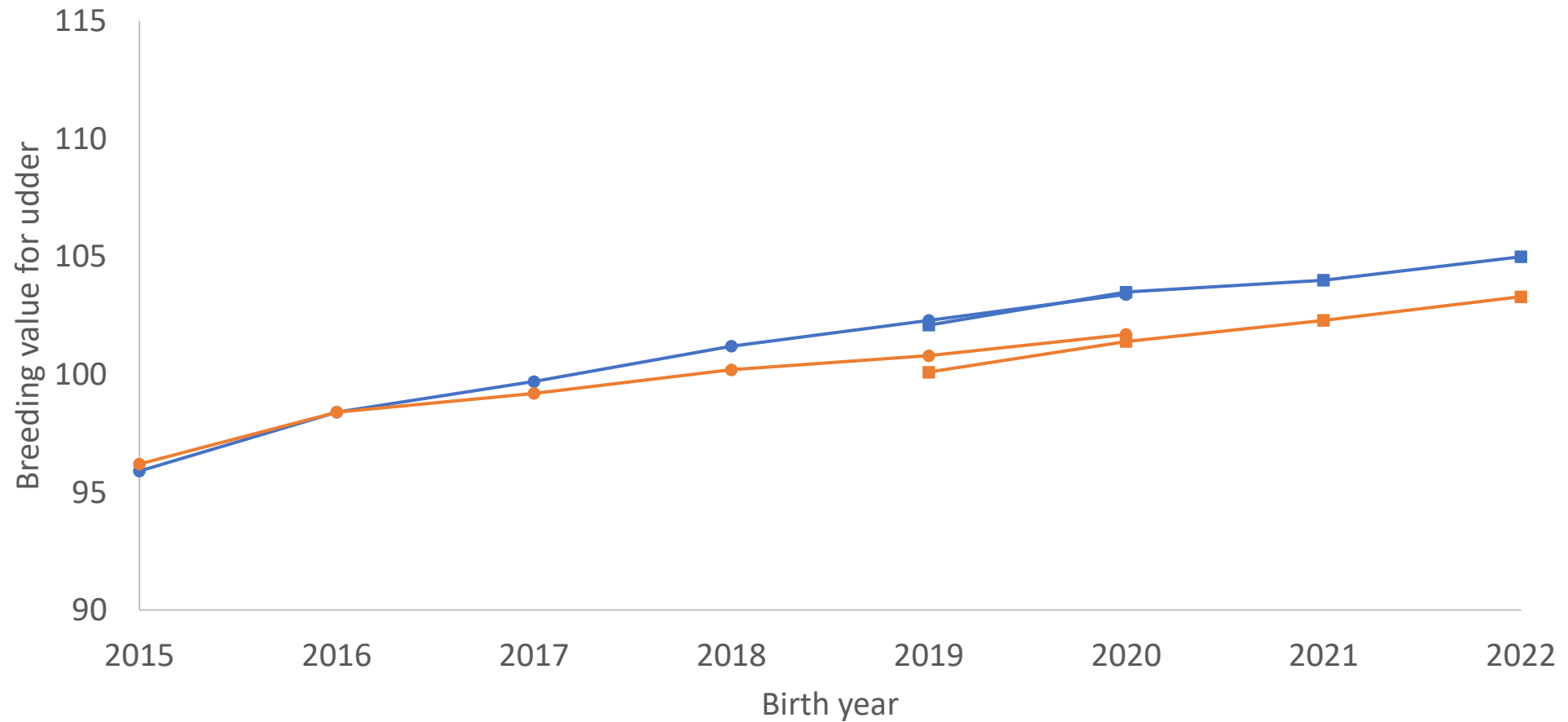
● Official genotyped females with record
■ Official genotyped females without record

HOL genotyped females - udder



- SingleStep genotyped females with record
- SingleStep genotyped females without record
- ... SingleStep nongenotyped females with record
- Official genotyped females with record
- Official genotyped females without record
- ... Official nongenotyped females with record

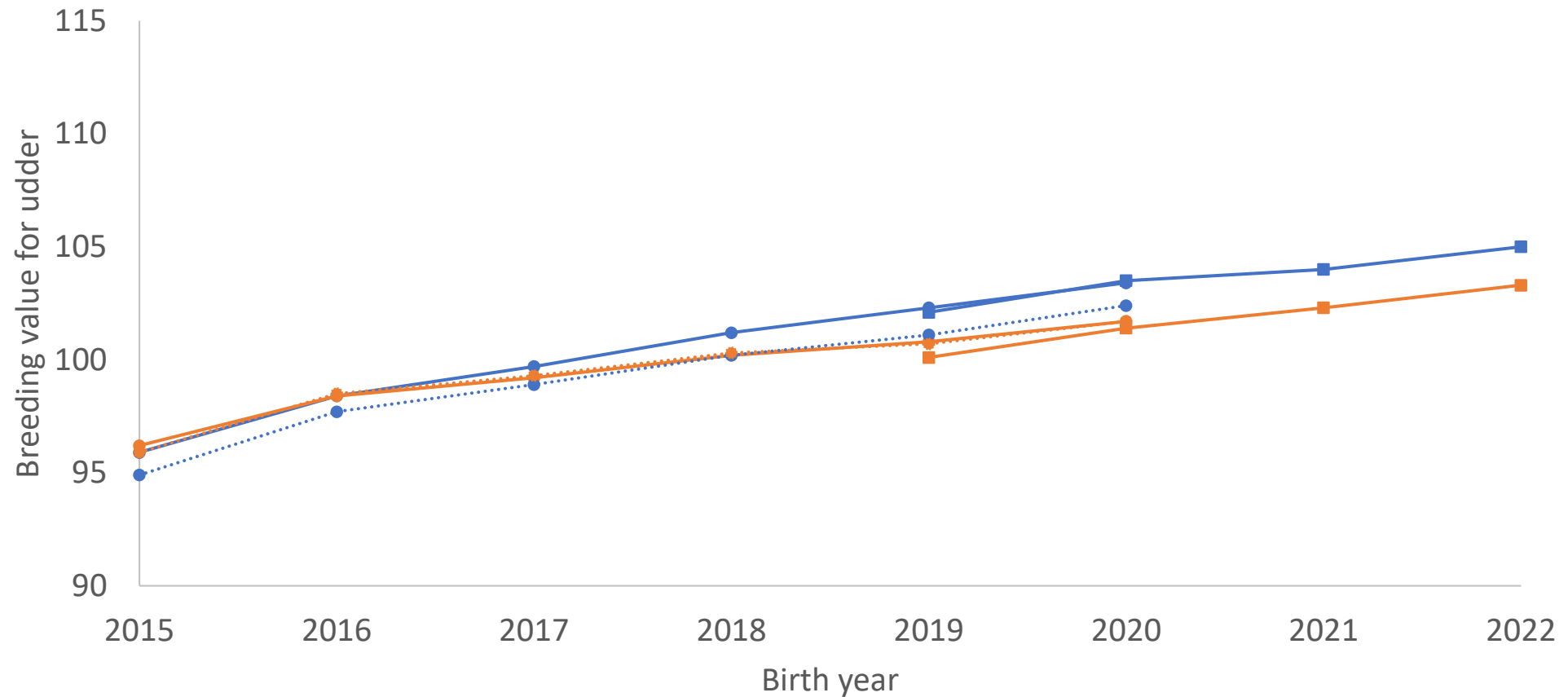
RDC genotyped females - udder



● SingleStep genotyped females with record
■ SingleStep genotyped females without record

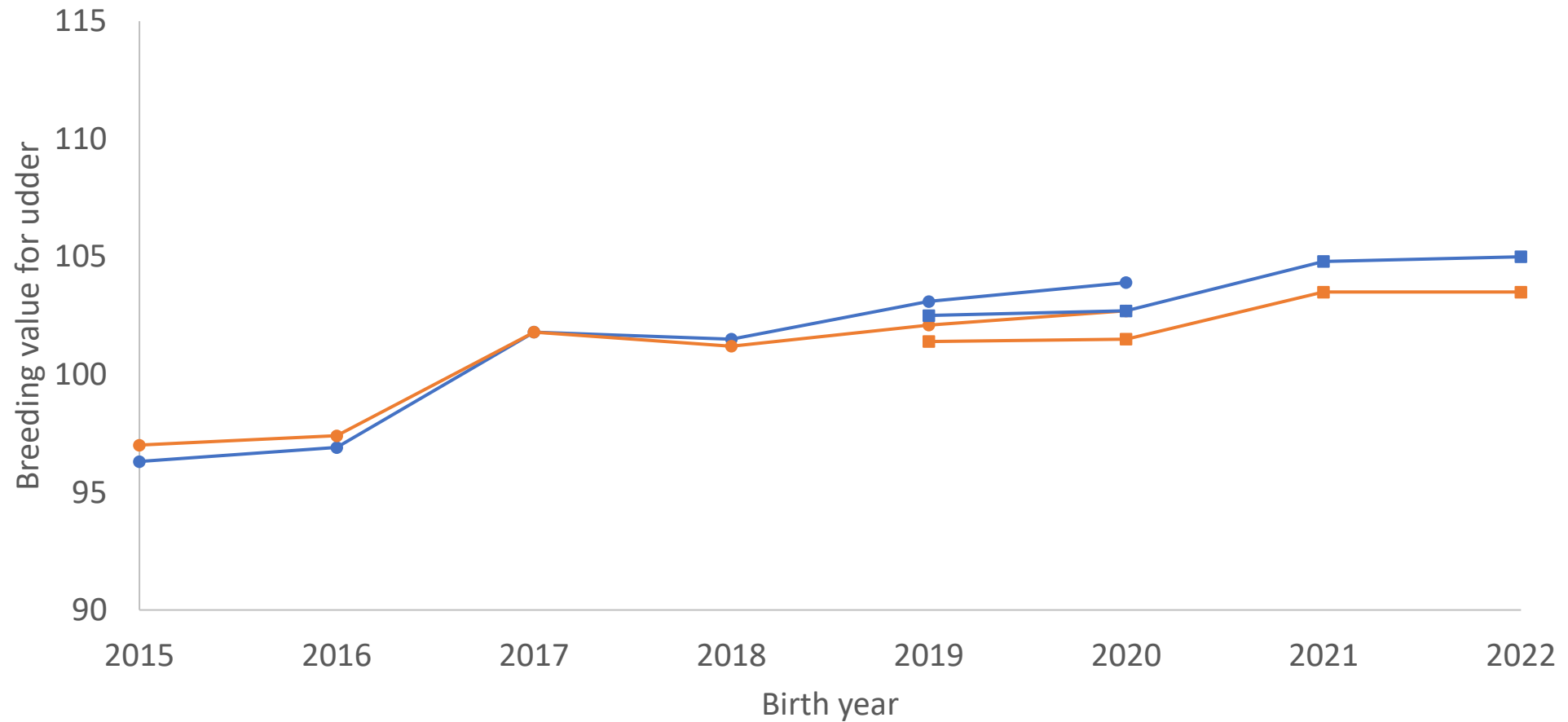
● Official genotyped females with record
■ Official genotyped females without record

RDC genotyped females - udder



- SingleStep genotyped females with record
- SingleStep genotyped females without record
- SingleStep nongenotyped females with record
- Official genotyped females with record
- Official genotyped females without record
- Official nongenotyped females with record

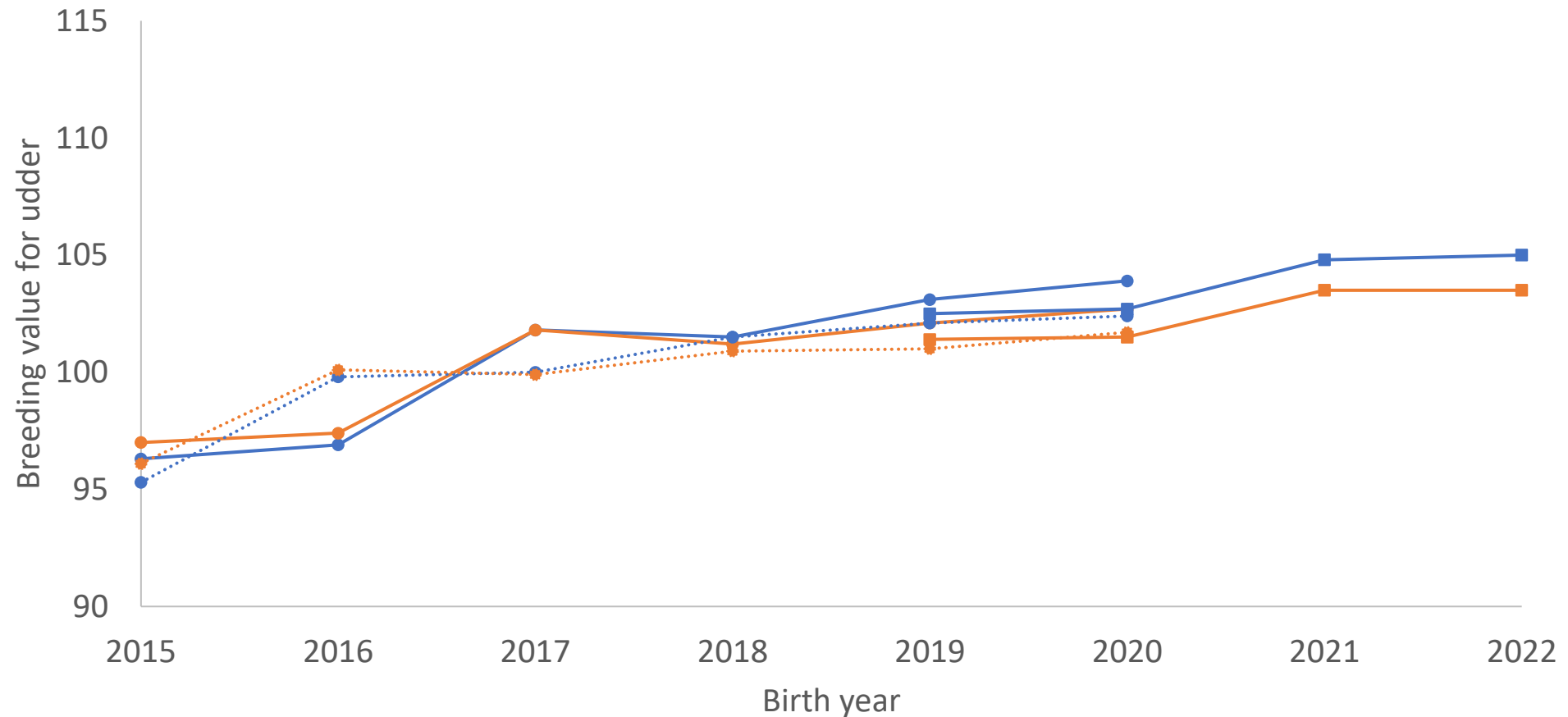
JER genotyped females - udder



● SingleStep genotyped females with record
■ SingleStep genotyped females without record

● Official genotyped females with record
■ Official genotyped females without record

JER genotyped females - udder



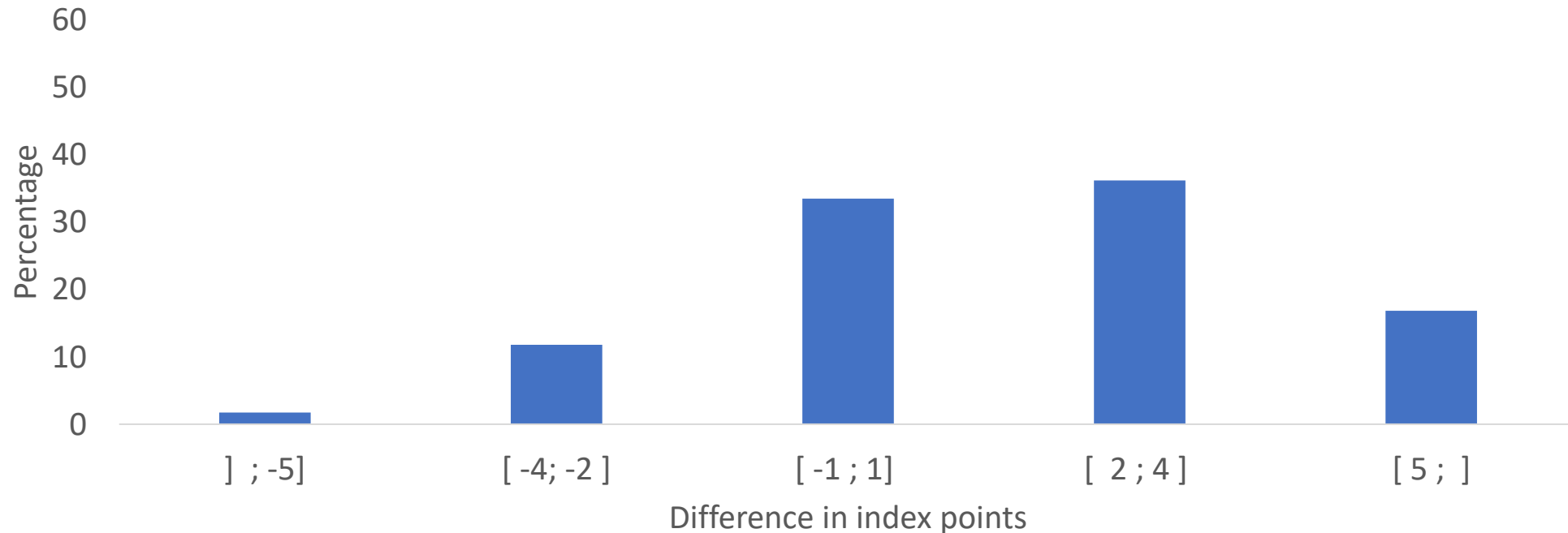
—●— SingleStep genotyped females with record
—■— SingleStep genotyped females without record
·····●····· SingleStep nongenotyped females with record

—●— Official genotyped females with record
—■— Official genotyped females without record
·····●····· Official nongenotyped females with record

HOL genotyped females - udder

	Birth year	udder
<u>Correlations</u>	2015 - 2020	0.95-0.96
<u>within birth year</u>	2019 - 2022	0.94-0.95

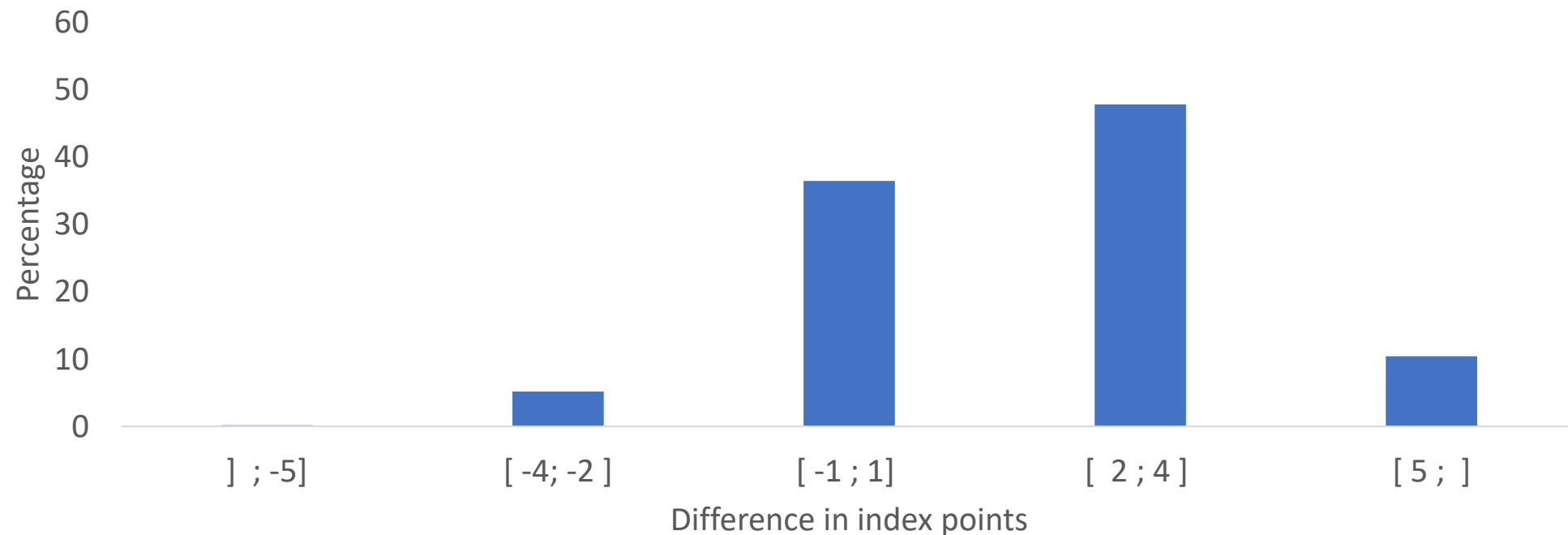
Distribution of differences for females without record born ≥ 2019



RDC genotyped females - udder

	Birth year	udder
<u>Correlations</u>	2015 - 2020	0.96-0.97
<u>within birth year</u>	2019 - 2022	0.95-0.96

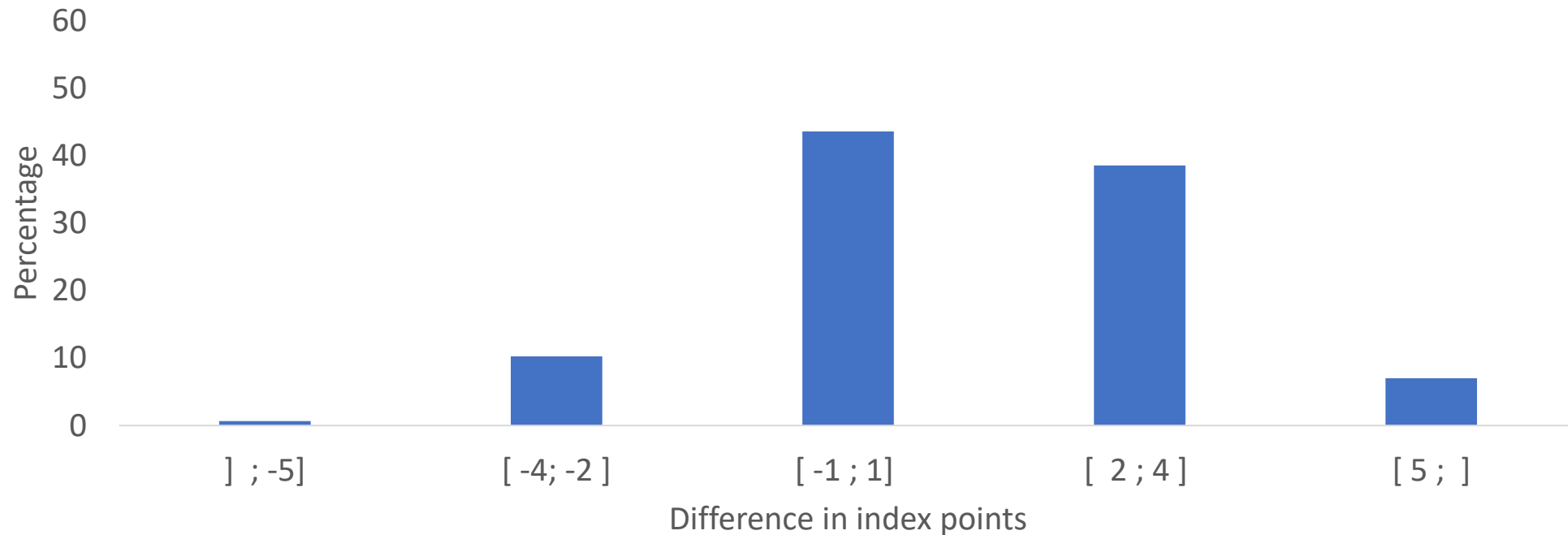
Distribution of differences for females without record born ≥ 2019



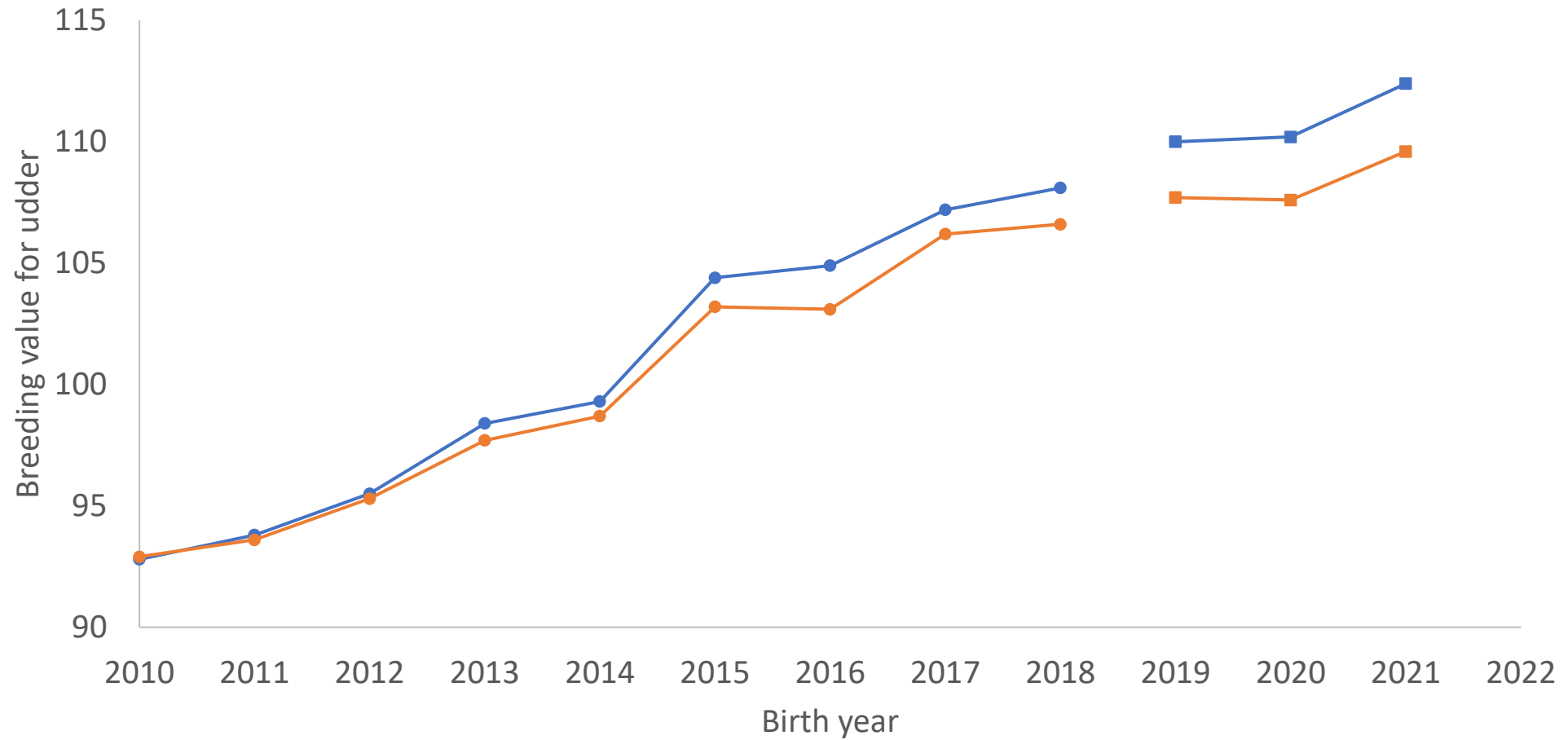
JER genotyped females - udder

	Birth year	udder
<u>Correlations</u>	2015 - 2020	0.97-0.98
<u>within birth year</u>	2019 - 2022	0.96-0.97
With record		
Without record		

Distribution of differences for females without record born ≥ 2019

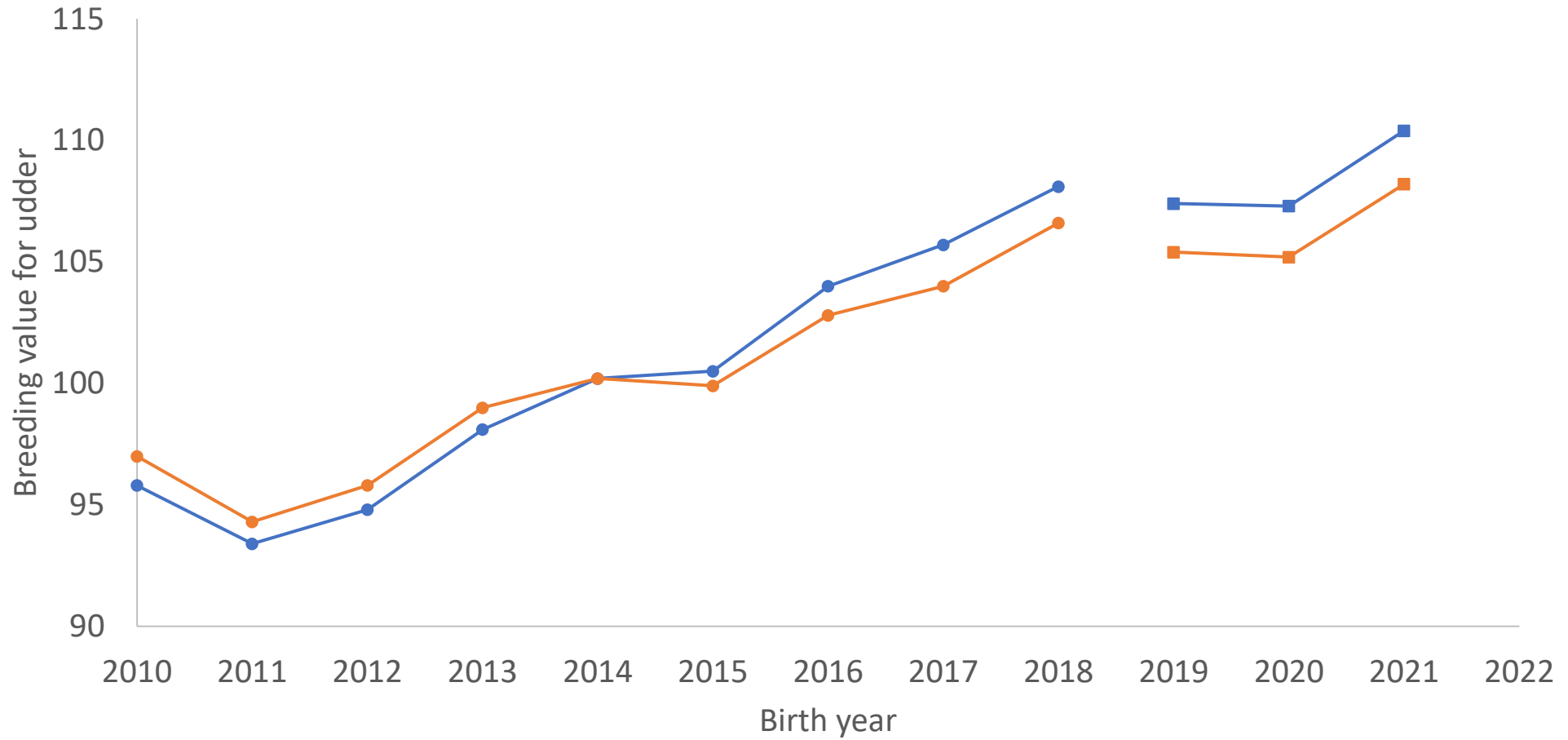


HOL AI bulls - udder



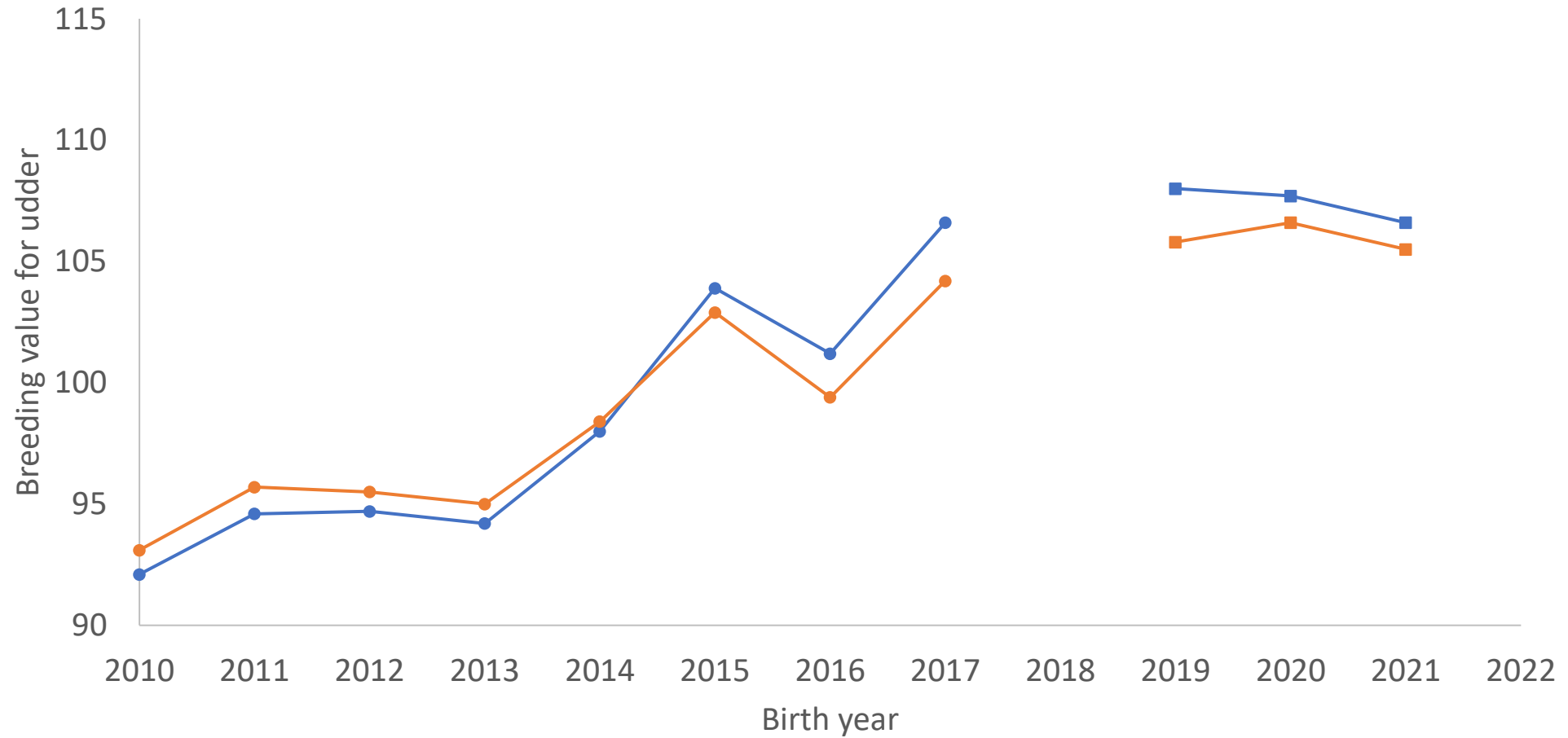
- SingleStep with offspring
- Official with offspring
- SingleStep without offspring
- Official without offspring

RDC AI bulls - udder



- SingleStep with offspring
- Official with offspring
- SingleStep without offspring
- Official without offspring

JER AI bulls - udder

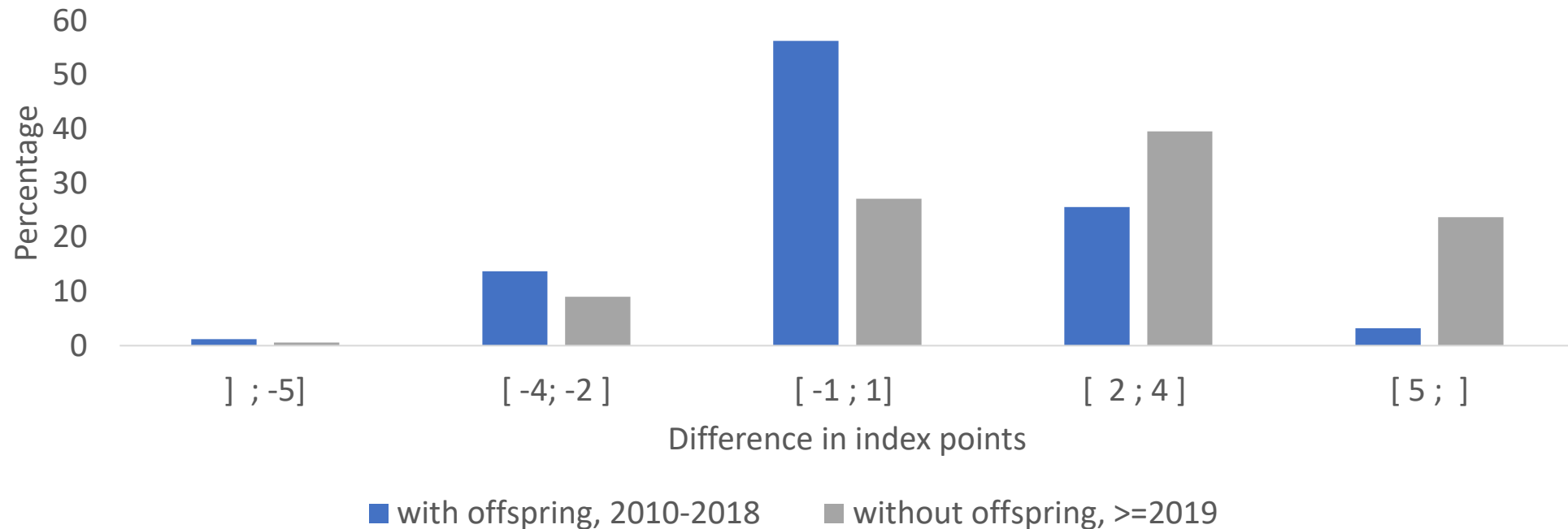


- SingleStep with offspring
- Official with offspring
- SingleStep without offspring
- Official without offspring

HOL AI bulls - udder

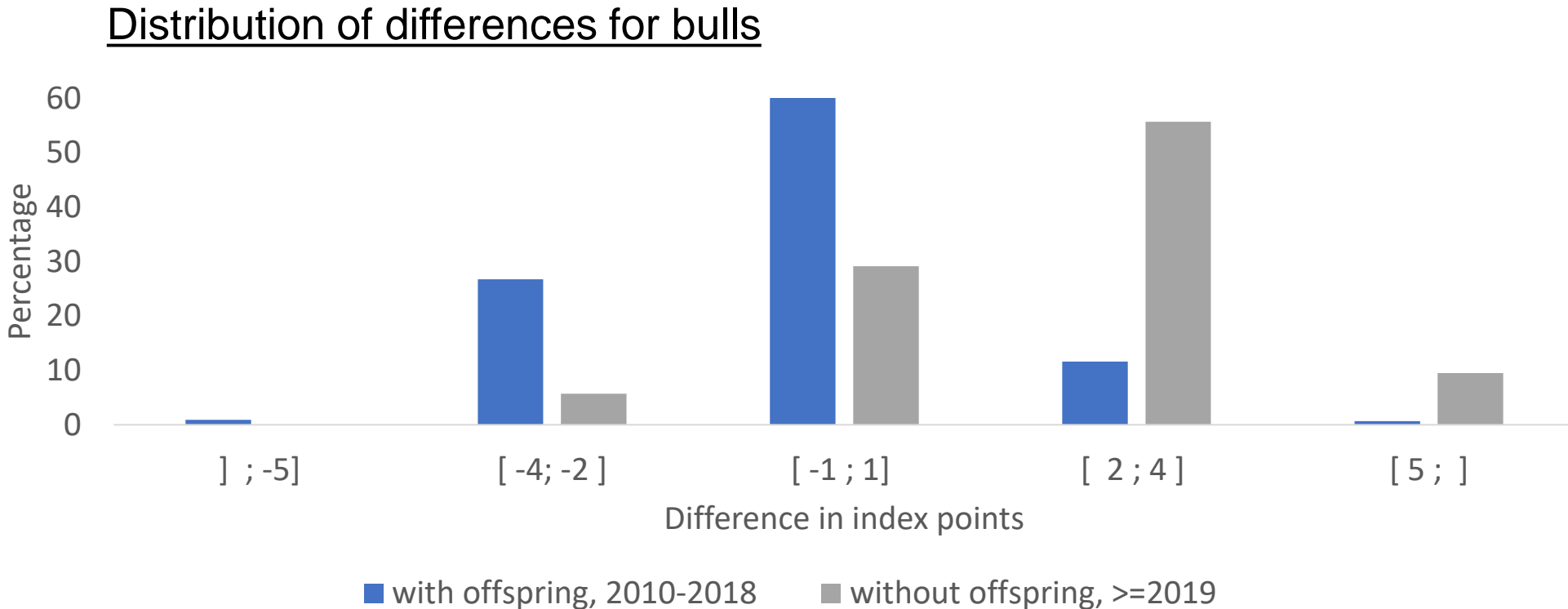
<u>Correlations</u> <u>within birth year</u>		Birth year	udder
	With offspring	2010 - 2018	0.96 - 0.99
	Without offspring	2019 - 2022	0.91 - 0.94

Distribution of differences for bulls



RDC AI bulls - udder

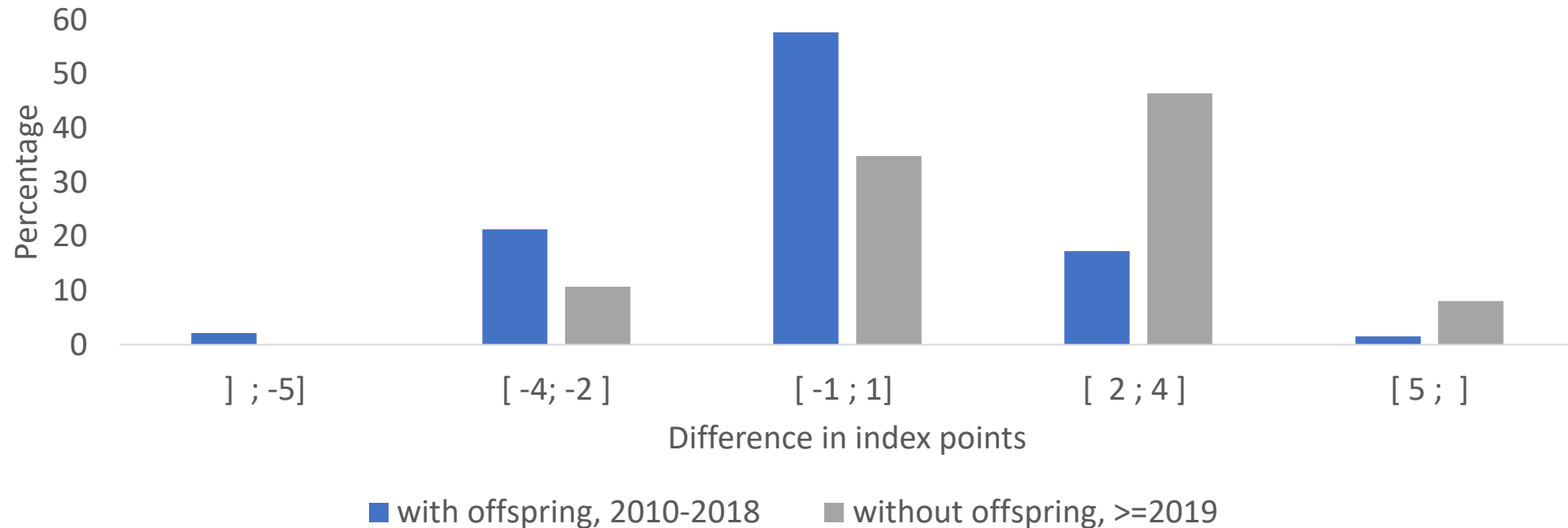
<u>Correlations</u> <u>within birth year</u>		Birth year	udder
	With offspring	2010 - 2018	0.97 - 0.99
	Without offspring	2019 - 2022	0.94 - 0.95



JER AI bulls - udder

<u>Correlations</u> <u>within birth year</u>		Birth year	udder
	With offspring	2010 - 2018	0.97 - 0.99
	Without offspring	2019 - 2022	0.95 - 0.97

Distribution of differences for bulls



AI bulls - other traits

Similar results for

Feet and legs

Frame

Stature

Before November, all Type traits was closely studied

Conclusions

- For Type traits the singlestep procedure gives promising results
- The trend for genotyped and nongenotyped females are at similar level
- High correlation to current official breeding values