

Genomics Timeline

- 2001 - Analytical framework published
- Dec 2007 – BovineSNP50 chip
- Apr. 2008 – Unofficial evaluation
- Jan. 2009 – Official evaluation
- Apr. 2010 – Imputation implemented
- Dec. 2010 – Low density (LD 3K) chip
- Aug. 2011 – Haplotypes Impacting Fertility
- Dec. 2011 – LD 6K chip
- Apr. 2012 – LD 9K chip3



Applications

- Genomic PTA
 - Increased reliability
 - Very young age (under 1yr, on average)
- Quality Control
 - Parentage, gender, breed, farm and lab sample handling
- Haplotypes Impacting Fertility
- Recessives



Effect on Sire Age

Age of Sire	Calf Birth Year		
	2008 pre-genomic	2010	2011 post-genomic
Young Sires (<5yr)	25%	37%	47%
Proven Sires (5yr – 8yr)	61%	50%	43%
Older Proven Sires (9yr+)	14%	13%	10%



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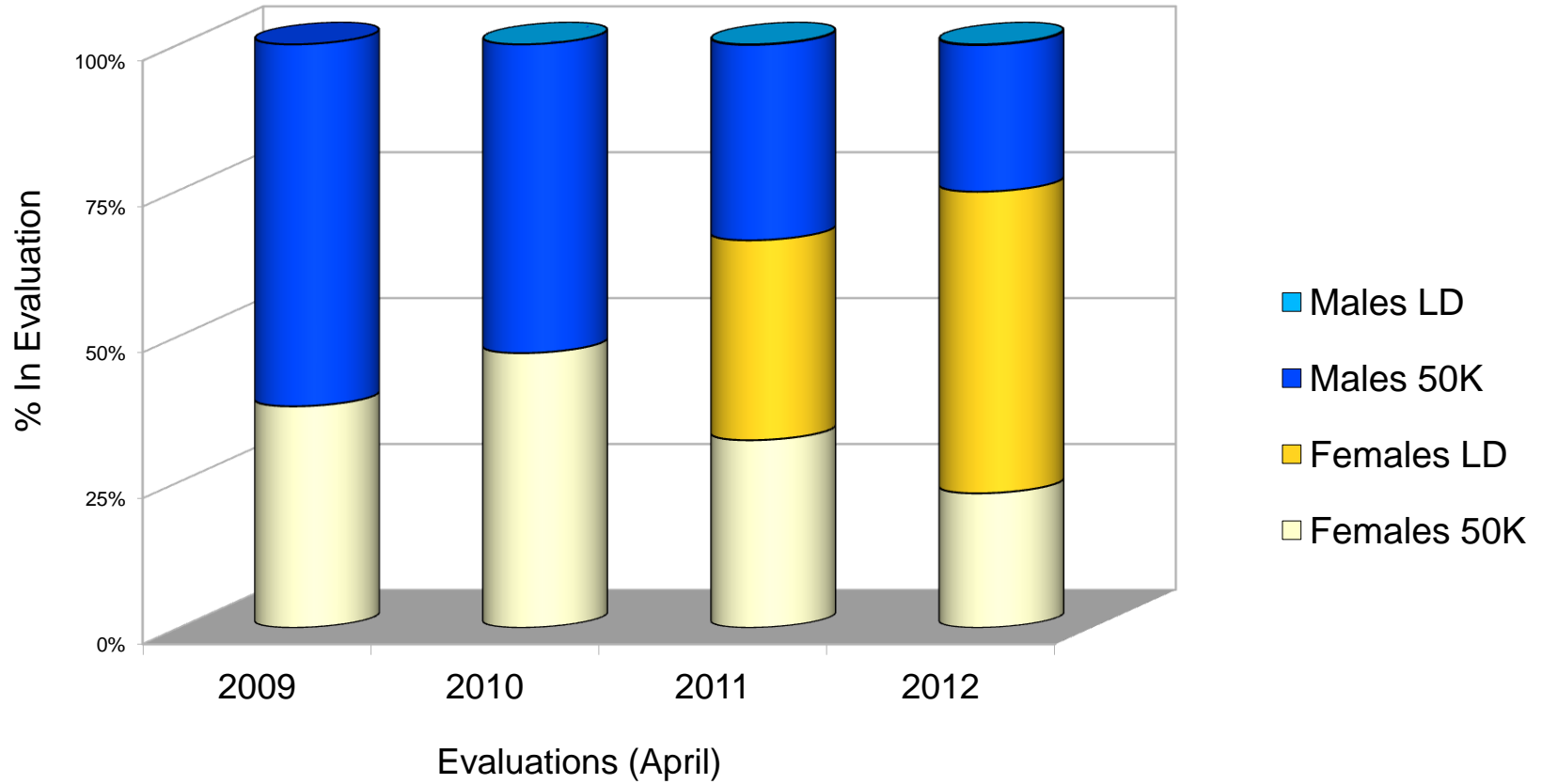
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Animals Evaluated (April)

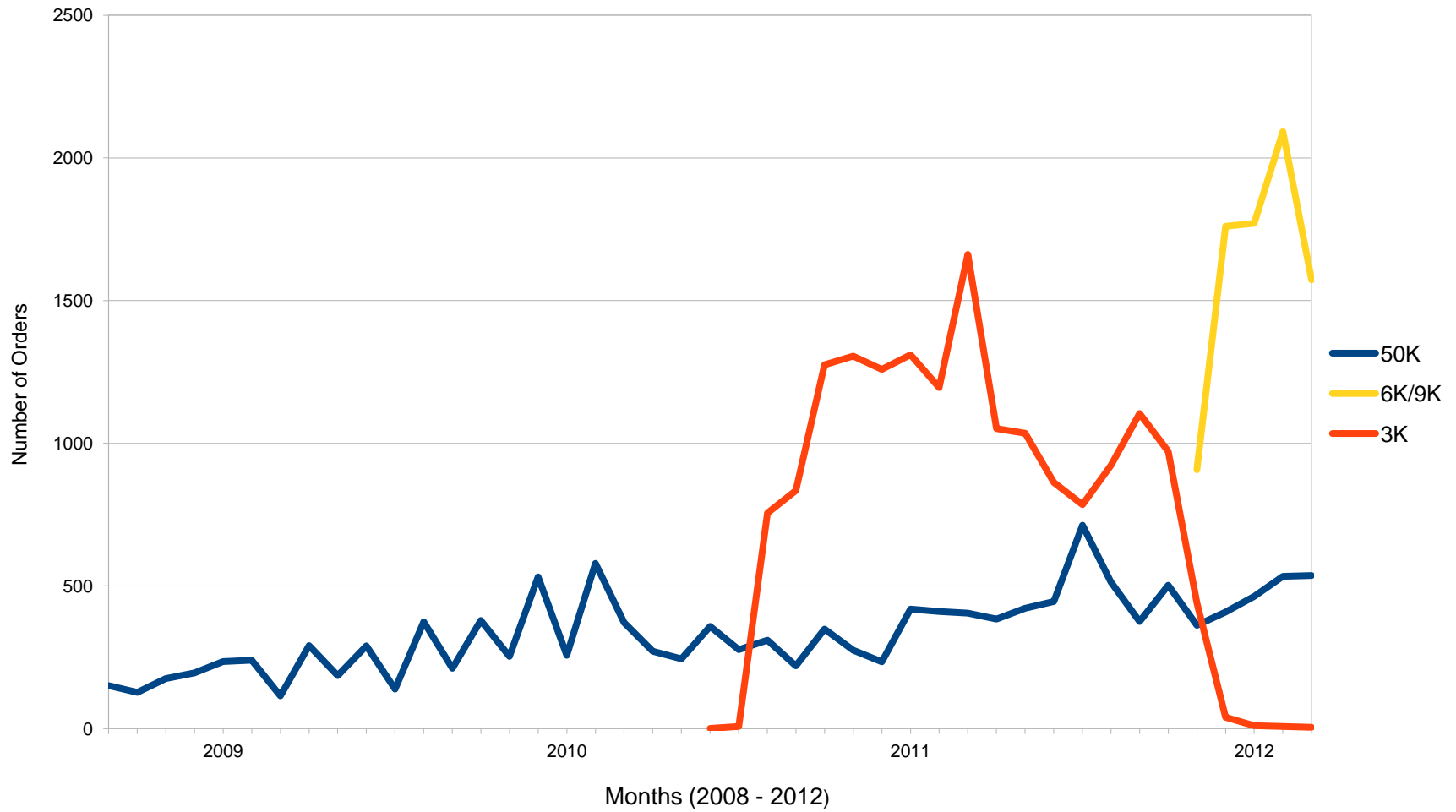
Year	Males	Females
2009	13,892	4,649
2010	18,019	16,041
2011	24,160	47,780
2012	37,779	111,824



Percentage Male and Female by chip density



Orders for Female Genomic Tests



Average Reliability

(females)

50K	77%
9K	72%
6K	70%
3K	70%



Looking Ahead

- End of restriction on male evaluations
- Expect more haplotypes
- Application to new traits
- Gain insights to functional biology
- Prescriptive management



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