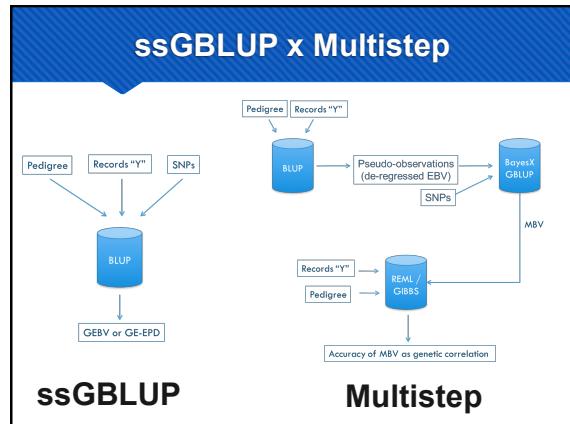
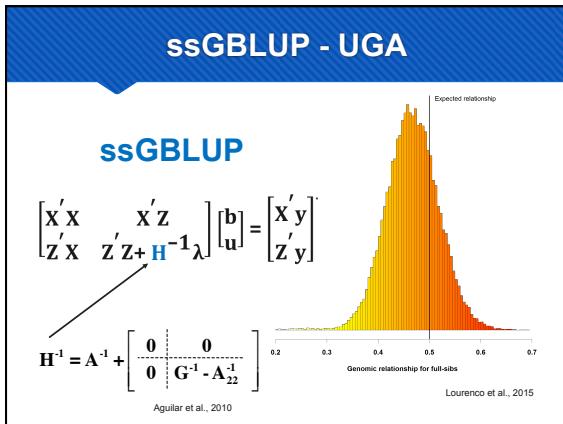
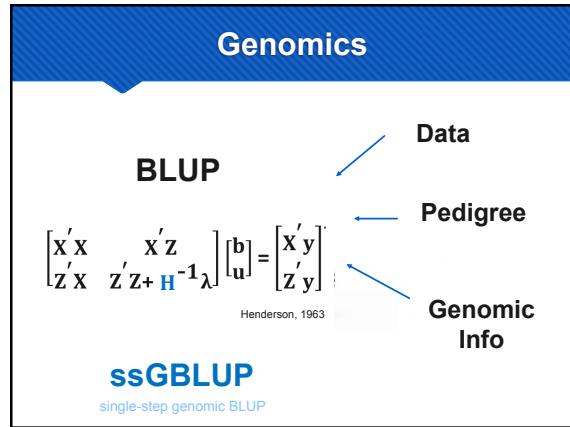
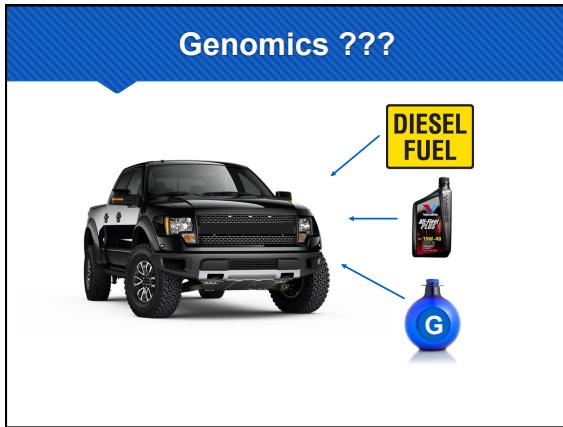
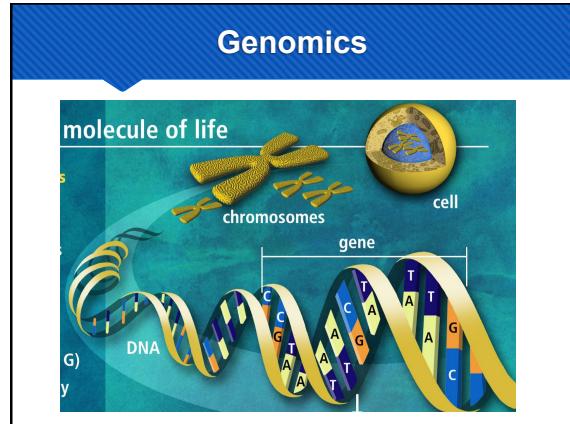


# Genetic evaluation using single-step genomic BLUP (ssGBLUP) in American Angus

Daniela Lourenco  
Ignacy Misztal, Keith Bertrand, Tonya Amen, Dan Moser  
University of Georgia and Angus Genetics Inc.  
BIF 6/11/2015



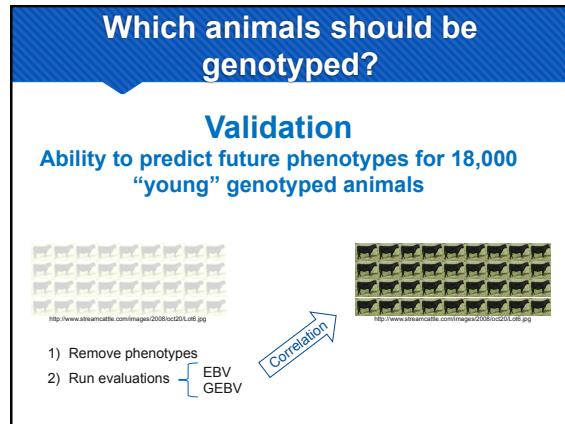
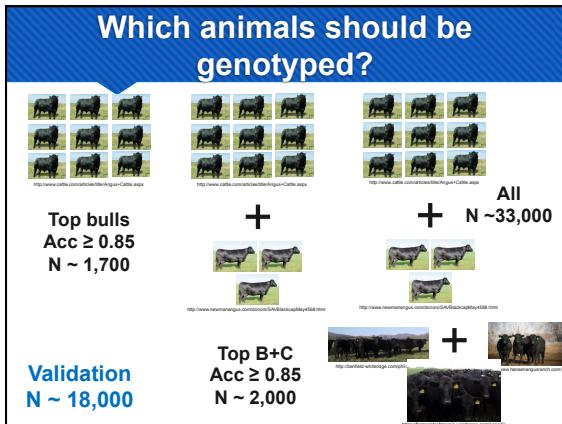
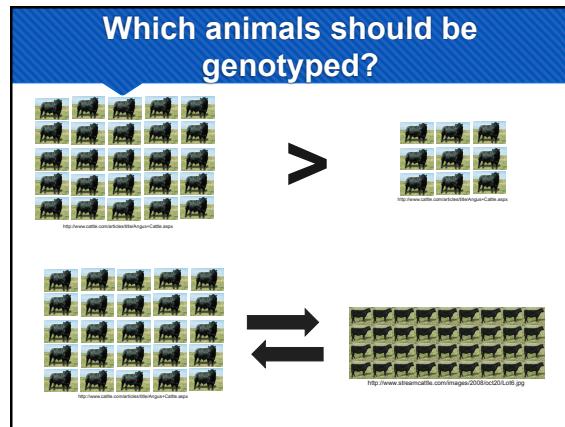
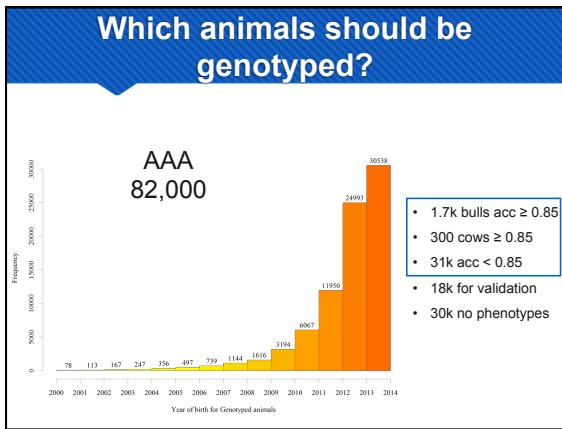
### ssGBLUP x Multistep

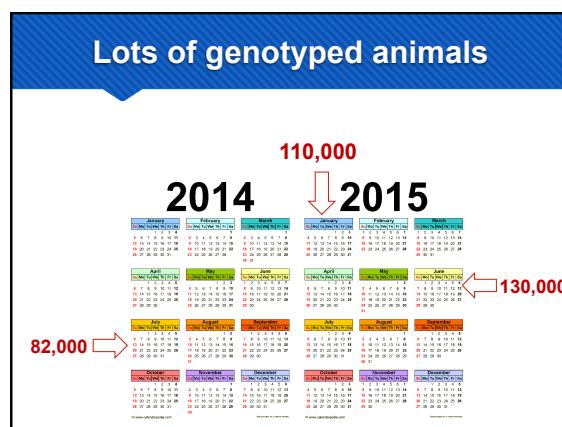
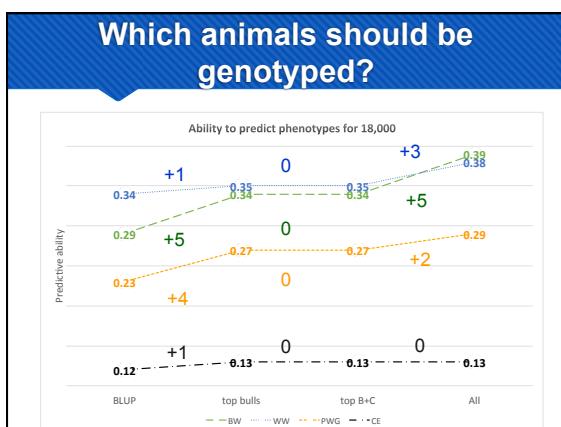
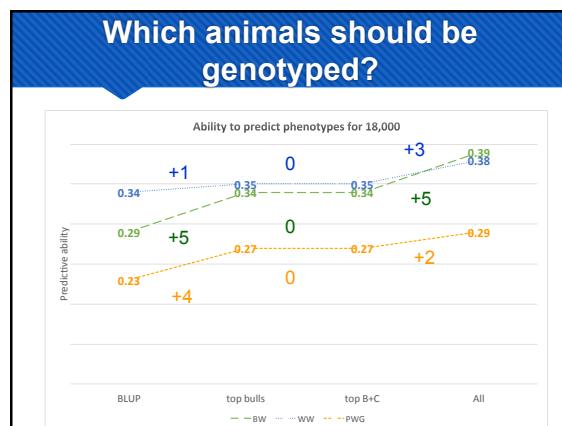
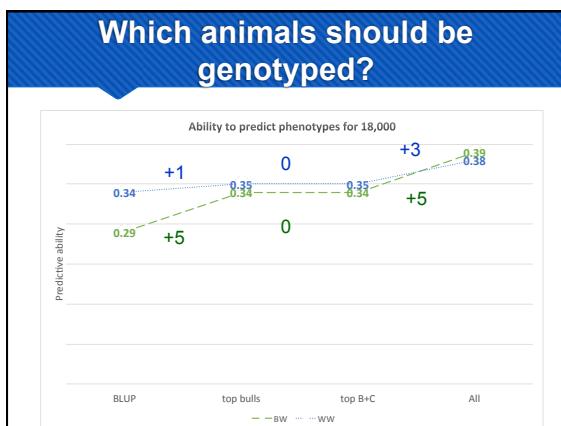
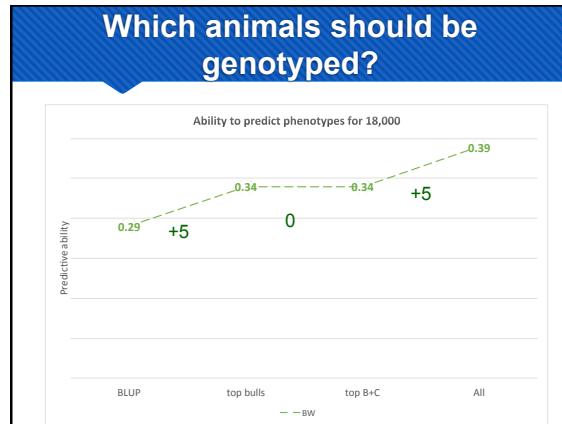
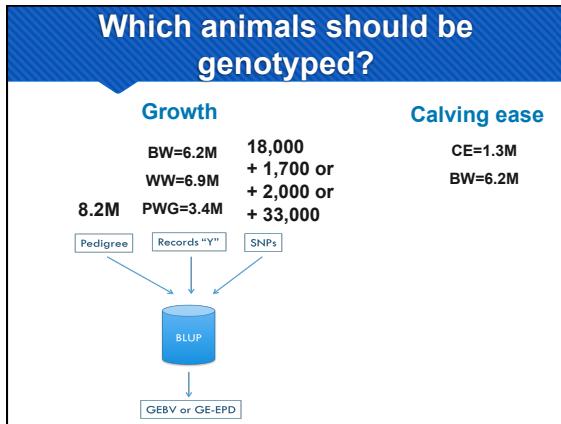
<ul style="list-style-type: none"> <li>• Same models as in BLUP</li> <li>• Raw phenotypes</li> <li>• Animals           <ul style="list-style-type: none"> <li>• Genotyped</li> <li>• Ungenotyped</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Simple models</li> <li>• Pseudo-phenotypes</li> <li>• Animals           <ul style="list-style-type: none"> <li>• Genotyped</li> </ul> </li> </ul>
<b>ssGBLUP</b>	<b>Multistep</b>

### Number of genotyped

> 8 million

?????





### Lots of genotyped animals

Association/ Species	# Genotyped
Fish	2,500
Pigs	15,000
Chicken	18,000
AAA	130,000
US Holstein	850,000

$H^{-1} = A^{-1} + \begin{bmatrix} 0 & 0 \\ 0 & G^{-1} - A_{22}^{-1} \end{bmatrix}$

Aguilar et al., 2010

BUSTED

Limitation: ~50,000

### Base and non-base animals

BASE

NON-BASE

### Genomic recursions for $G^{-1}$

