

# Bos taurus

## Axis1 - Assembly

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# Assembly production

## - 2 Trio :

- 6 Sequenced
- 6 Assembled and scaffolded
- 6 Available assemblies

## - 154 GABILR :

- 154 Sequenced
- 154 Assembled

## - 9 AC-Bovin :

- 9 Sequenced
- 9 Assembled
- 9 Available assemblies

## - 2 Hybrid Trio :

- 2 Sequenced
- 2 Assembled
- Phasing validation

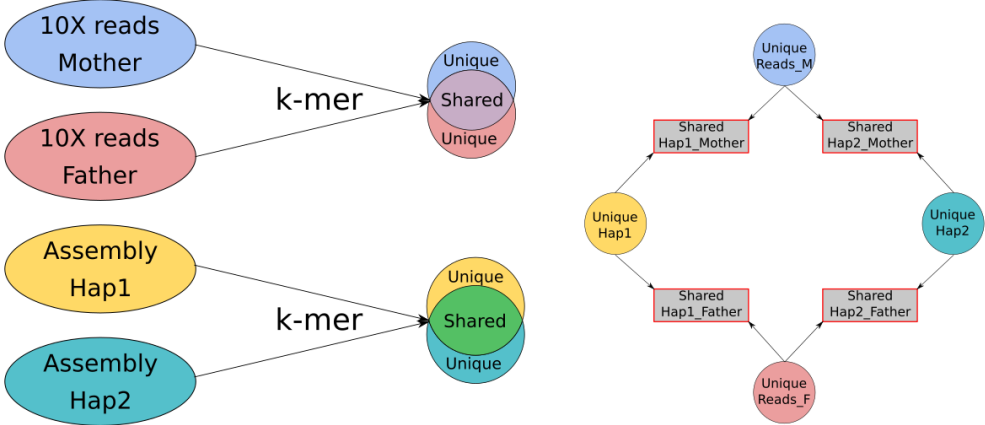
## - 2 Trio GABILR :

- 2 Sequenced
- Phasing validation

	<u>Flye Q20+</u>	<u>Hifiasm Q20+</u>	<u>Flye CLR</u>	<u>Wtdbg2 CLR</u>	<u>Flye ONT</u>	<u>Wtdbg2 ONT</u>	<u>Flye Hifi</u>	<u>Hifiasm HiFi</u>
<u>Coverage</u>	30X	30X	33X	33X	58X	58X	41X	41X
<u>Number of scaffolds</u>	2 398	17150	3 466	2 857	2 744	7 226	18159	905
<u>Total size (Gb)</u>	2.70	2.22	2.66	2.63	2.68	2.70	3.44	3.21
<u>Longest contig (Mb)</u>	76.9	4.8	70.5	56.6	95.23	70.7	11.5	167.7
<u>N50 scaffold length (Mb)</u>	28.5	0.17	19.6	16.5	31.4	23.7	0.75	86.9
<u>L50 scaffold count</u>	30	3570	38	46	26	35	948	15
<u>BUSCO</u>	95.8%	56.9%	95.0%	90.0%	85.7%	70.2%	93.5%	96.0%

- **Q20+ hifi asm** : No good results so far
- **Q20+ flye** : Results as good as CLR flye + correction CLR  
ONT flye + correction short reads
- **Q20+** : Good consensus sequences quality with flye (HiFi equivalent)  
Missing repeated parts (ONT / CLR equivalent)

	ARS-UCD1.2	Hifiasm consensus	Parent-HiFi Hap1	Parent-HiFi Hap2	HiC-HiFi Hap1	HiC-HiFi Hap2
Number of contigs	3 077	1 444	2 871	2 300	2 658	2 136
Total size (Gb)	2.7	3.2	3.2	3.1	3.1	3.2
N50 contigs length (Mb)	12	84.1	71.6	69.2	80.1	71.6
BUSCO	95.7 %	95.9 %	95.8 %	95.3 %	95.8 %	95.7 %
Phasing ratio			97.3 %	96.7 %	62.6 %	60.5 %
Contigs phasing ratio			97.5 %	96.9 %	84.6 %	85.6 %



# Phasing assemblies from SNPs



- Use hapcut2 (&LongShot + WhatsHap) to phase assemblies
- No additional sequencing data
- Work with CLR, CCS, Nanopore

	ARS-UCD1.2	Hifiasm consensus	Hap1	Hap2
Number of contigs	3 077	1 444	3 773	3 009
Total size (Gb)	2.7	3.2	3.5	3.6
N50 contigs length (Mb)	12	84.1	63.2	68.5
BUSCO	95.7 %	95.9 %	95.8 %	95.7 %
Phasing ratio			51.3 %	51.7 %
Contigs phasing ratio			60.6 %	59.4 %

- First results (from Arnaud) give good metrics but bad phasing
- Test on new Hapcut2 version

# Partenaires du projet

## Coordination

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