

I W G S C



International Wheat Genome  
Sequencing Consortium

# IWGSC OPEN BUSINESS MEETING

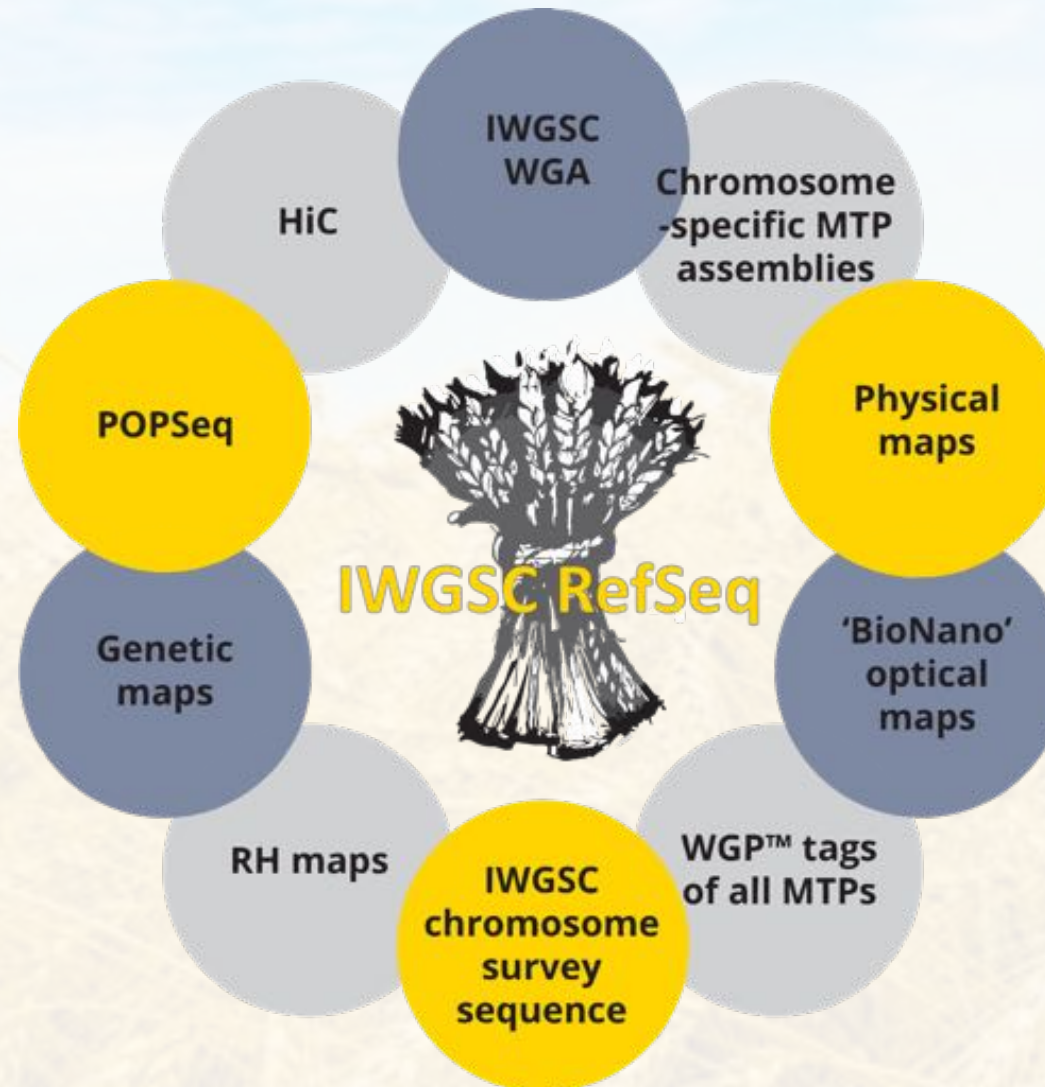
Kellye Eversole  
IWGSC Executive Director

Plant & Animal Genome Conference  
San Diego, California, USA  
12 January 2019

# Congratulations to all of you!!!!



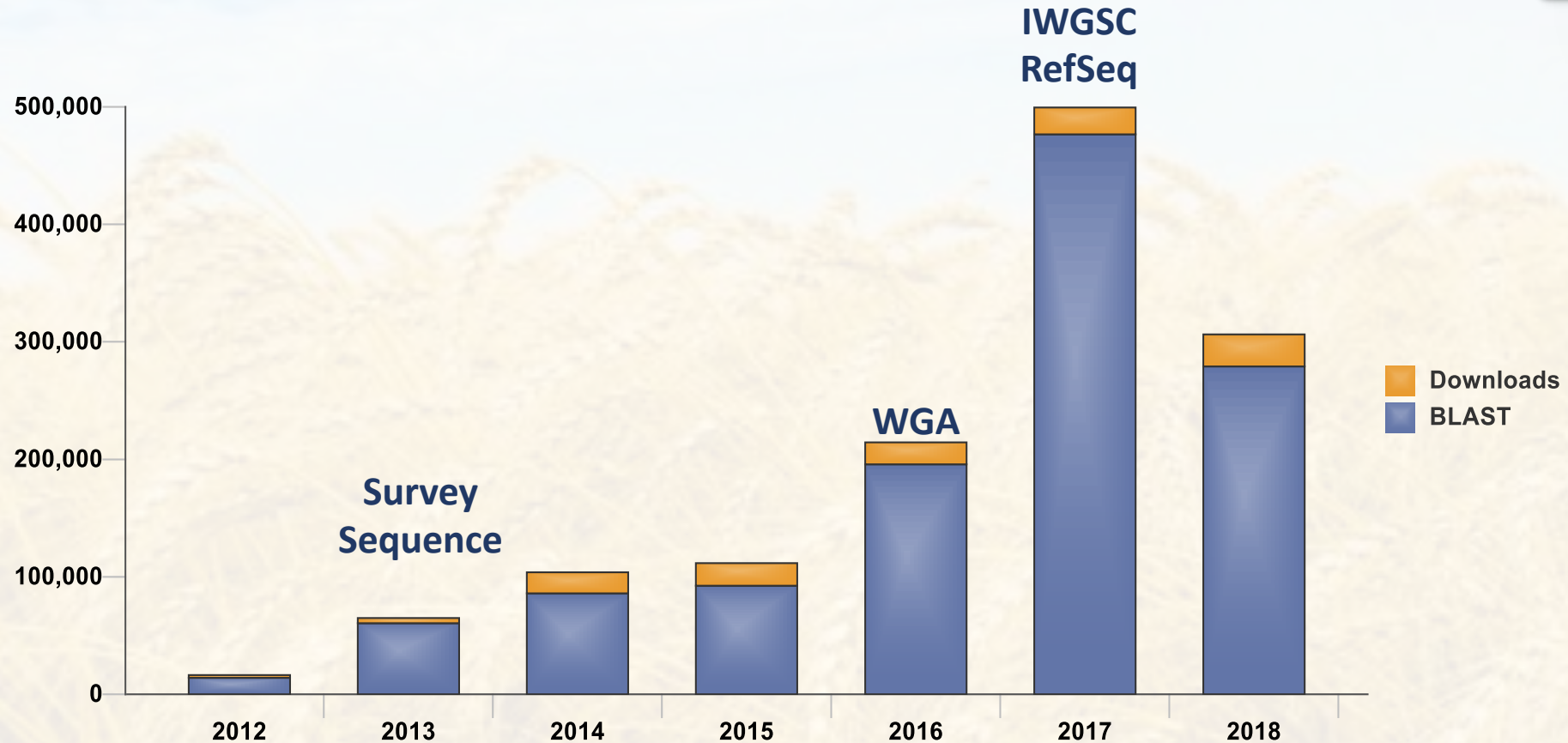
Science, 17 August 2018



# Measuring the Impact of the IWGSC: Data Access

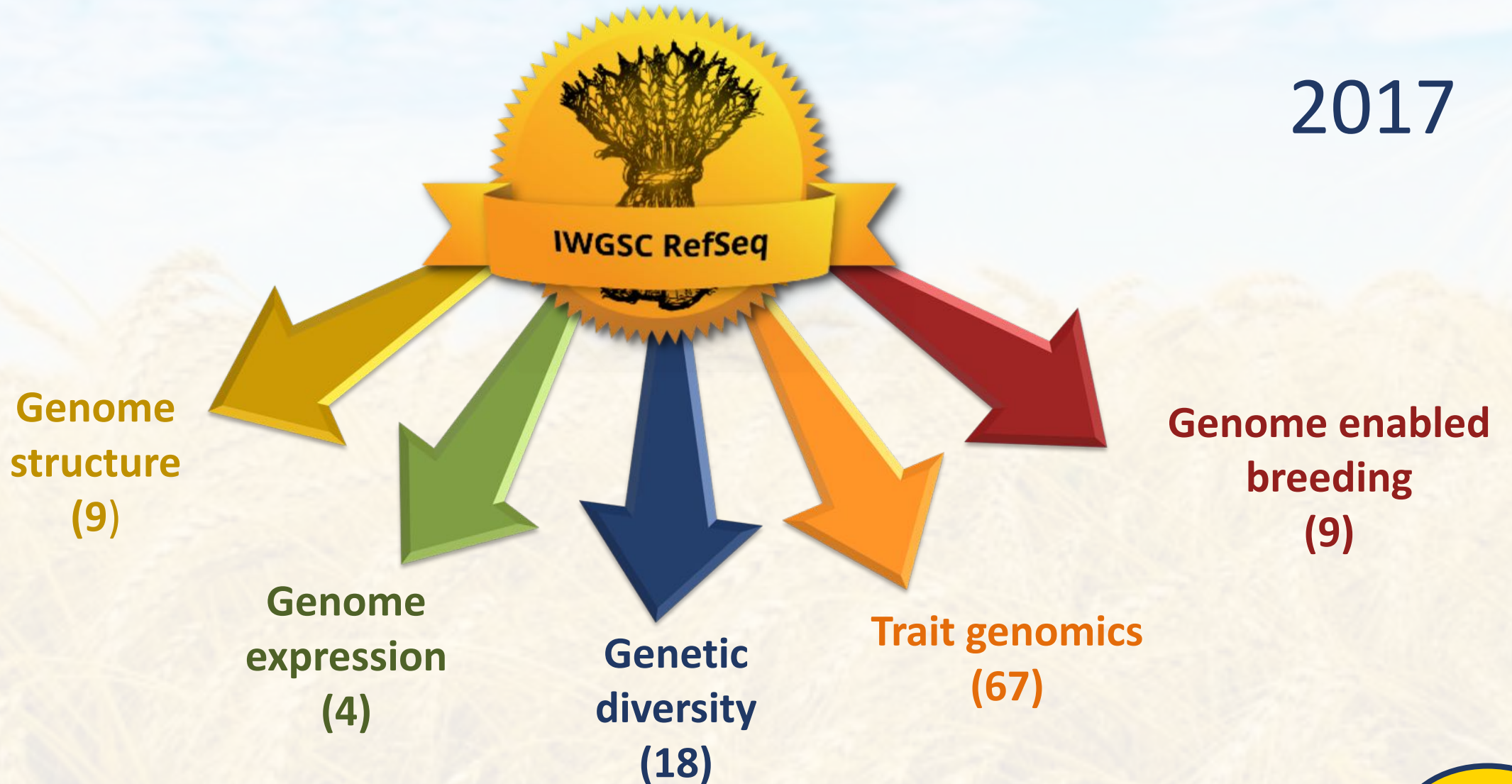
Cumulative Downloads: 112,723

Cumulative BLAST searches: 1,204,345



# Measuring the Impact of IWGSC RefSeq v1.0

2017



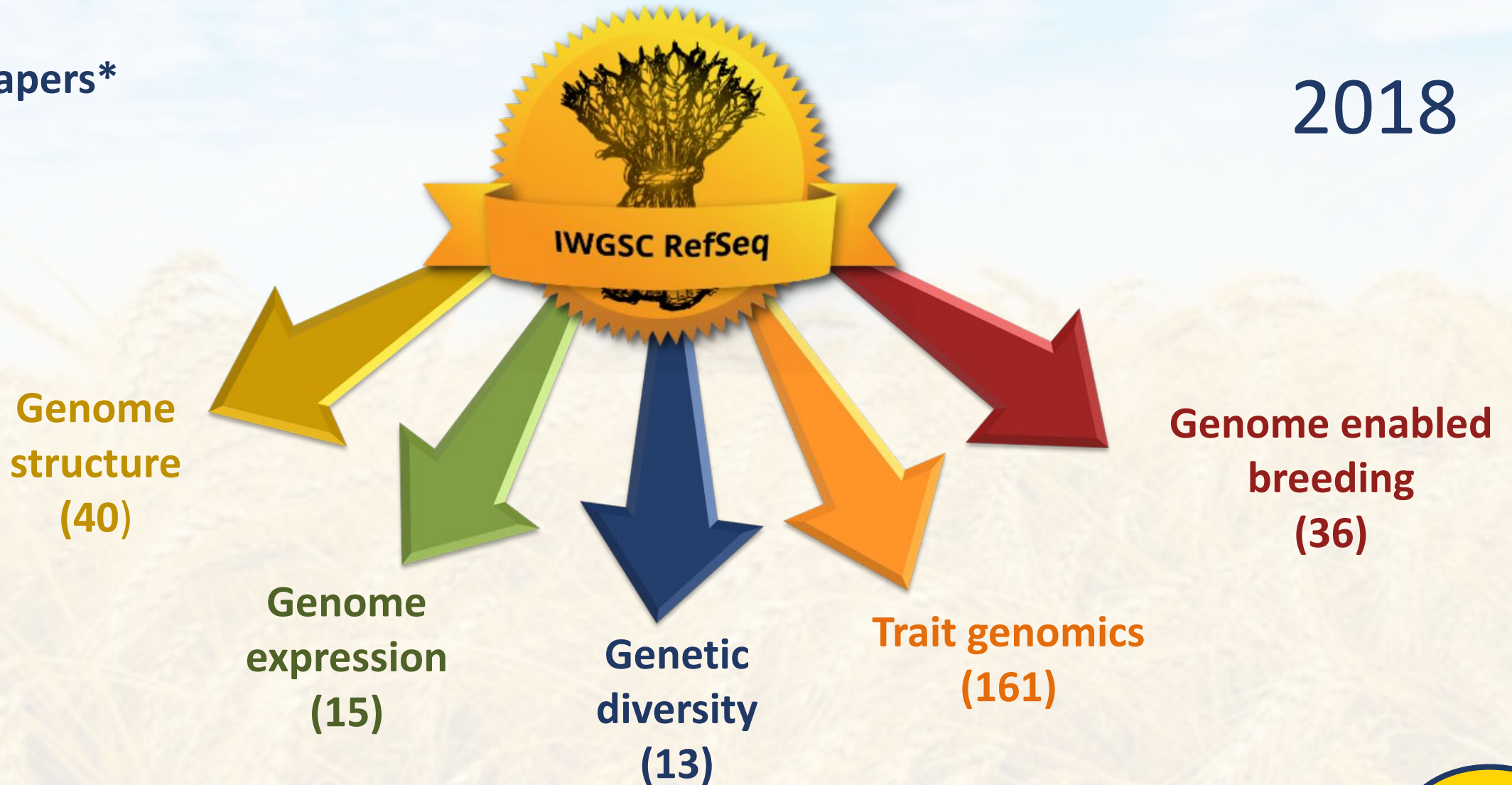
# of papers referencing use of IWGSC RefSeq related resources since January 2017: over 100 papers



# Measuring the Impact of IWGSC RefSeq v1.0

> 260 papers\*

2018



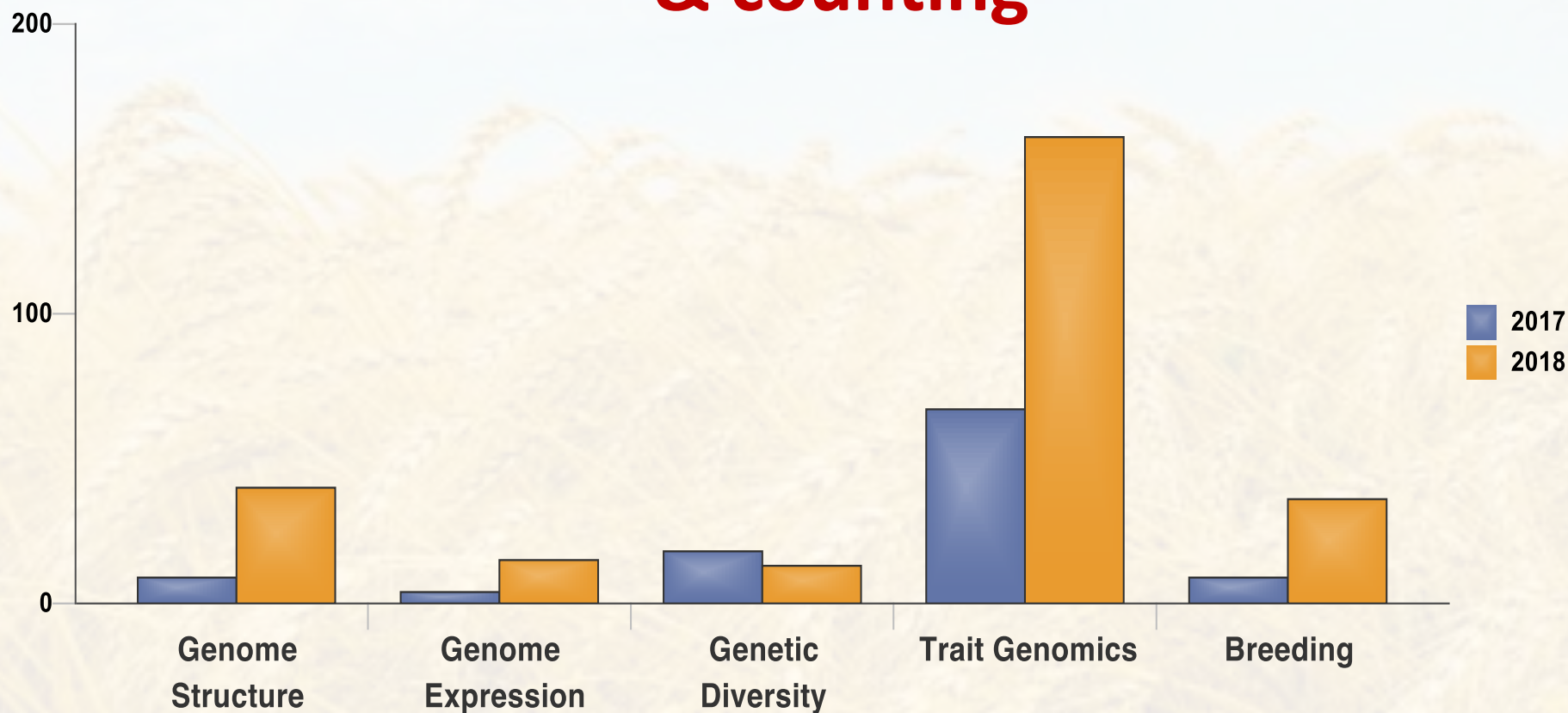
\* Incomplete number of 2018 papers published that referenced or used IWGSC RefSeq and associated resources



# Measuring the Impact of IWGSC RefSeq v1.0: Publications

2017: >100 papers  
2018: > 260 papers\*

**2017-2018: >372 papers  
& counting**



\* Incomplete number of 2018 papers published that referenced or used IWGSC RefSeq and associated resources



# IWGSC 2019 Awards

- ▶ IWGSC Early Career Award: Carolina Sansaloni, CIMMYT
- ▶ IWGSC Leadership Awards:
  - ▶ Francis Quetier, Université d'Evry/ANR
  - ▶ Hélène Berges, CNRGV-INRA
  - ▶ Hirokazu Handa, Institute of Crop Science, NARO
  - ▶ Curtis Pozniak, University of Saskatchewan



# Vision and strategy for IWGSC 2.0





# IWGSC 2.0 activities

- ▶ IWGSC Exome Array based on the reference sequence
- ▶ Wheat pan-genome based on de novo sequencing and assembly of multiple wheat genomes (landraces and elite varieties) that cover the breadth of wheat diversity
- ▶ IWGSC Gold Standard: maintenance, updates, and integration of manual and functional annotation to the reference sequence
- ▶ User-friendly, integrated databases and tools to benefit public breeders and the full range of industry partners, from SME to large companies



# IWGSC-Arbor Biosciences Exome Array

▶ Jacob Enk, Arbor Biosciences

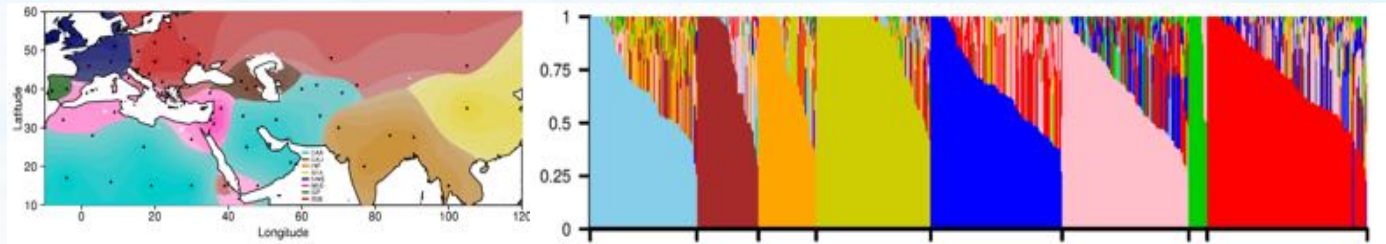


# IWGSC Wheat Pan-Genome

- ▶ Develop a wheat pan-genome that represents the breadth of worldwide wheat diversity
- ▶ Reference quality for 8-12 landraces
- ▶ Diversity panels at draft quality
- ▶ Haplotype database
- ▶ Skim-sequencing and high throughput genotyping of many lines



# Towards an IWGSC Wheat Pan-Genome



**Eight landraces** with less than 1% admixture @ 180-220X

→ describe ancient wheat haplotypes

+



**Additional lines** (including elite varieties) @ 30-40X

→ describe the modern genetic diversity (including alien introgressions)

Courtesy of Etienne Paux

# IWGSC Pan-Genome

- ▶ IWGSC focus is primarily on high quality, reference sequences of landraces that represent the 8 areas of genetic diversity.
- ▶ How can we integrate our activities with the 10-Genome project that focused mostly on elite varieties?
- ▶ Is anyone else planning to sequence elite varieties with assembly statistics of at least 2Mb N50?
- ▶ Can we get all sequences in the IWGSC repository at URGI?



# IWGSC 2.0: Manual & Functional Annotation

- ▶ Identification of gene family leaders for manual and functional annotation
- ▶ Identification of individuals working on gene cloning or marker development
- ▶ Michael Alaux: Discussion on how to provide updated gene annotations for inclusion in IWGSC RefSeq annotation v2.0.
- ▶ IWGSC Wheat Genome Manual & Functional Annotation Workshop on Tuesday (1:30 to 5:30 pm, Pacific Salon 2)



# Other Items?

▶ Are there other issues to be discussed?



# IWGSC Sponsors







**Thank you for your attention!**

**[www.wheatgenome.org](http://www.wheatgenome.org)**



**wheat.genome**



**@wheatgenome**

