

Report on Parallel Session I

# BIOTECHNOLOGY, GENOMICS, AND BREEDING OVERVIEW

9<sup>th</sup> International Oat Conference Beijing, China



# General Overview

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## Presentations:

### I. Biotechnology/Genomics:

Cytogenetics

Molecular biology

Databases

Trait mapping

Gene discovery

Mutation breeding

Population genetics

### II. Breeding

Disease resistance

Development of new oat species

Applied breeding in China and Australia



# Discussion

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## Encouraging:

The global oat research community has made considerable strides since the international oat meeting in Minneapolis, MN 2008

## Sustainability:

We now have the opportunity (responsibility) to make the outcomes of both completed and ongoing research Available, Accessible, and Applicable.

The papers (*presentations and posters*), with approval from the authors, should be posted online using the GrainGenes 2.0 Portal







# Discussion

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Molecular Tools/Resources:

“We can now merge the science with the art (breeding)”

“Tools need to be easy to use without too many resources.”

Focus on a global database:

“This is the lynch pin required to connect the tractor to the plow”

Mapping population catalog

Marker/trait associations

Cytogenetic characterization

Support of GranGenes Curation



# Discussion

## Application of mutation breeding in oat

Technology should be pursued as a way to develop novel oat traits

The technology will need to have direct application to breeding programs

## Cultivation of new oat species

Octaploid

Tetraploid

## Genomic selection in oat





# Discussion

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North American Oat Workers Conference 2014 Ottawa, Canada

