

**Report of the Barley Genetic Coordination Workshop  
at the IX International Barley Genetics Symposium  
in Brno, Czech Republic, June 19, 2004**

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**Agenda:**

**The following topics were brought up for discussion during the workshop:**

1. The current coordination system of to-day and in the future.
2. Nomination of Coordinators.
3. Barley Genetics Newsletters.
4. Nomenclature and Symbolization rules.
5. Demonstration of the AceDB database (International Database for Barley Genes and Barley Genetic Stocks).

**1. COORDINATION SYSTEM.**

The current system of chromosome and trait coordination, originally set up in 1969, will continue, with a view toward whole genome coordination in the future. Bill Thomas, UK, and Dave Marshall, UK, will be investigating the potential of modernizing the overall system and integrating all types of current and historic data collections into a single, combined database. The proposed system is to be an actively curated, inclusive and standardized database with frequent updates which covers the range of information from genomics to phenotypes. Quality of data and linkage to other Triticeae maps are issues that need some attention. Coordination and central location of electronic data base desired. Funding essential to enable database maintenance and meetings of participants for efficient coordination.

**2. NOMINATION OF COORDINATORS.**

In the following, a list of the Chromosomal/Linkage Groups and Genetic Stock Collections is presented with the names of the individuals who agreed to be responsible.

**a. Overall Chairman and Chromosomes.**

Overall:Chairman:	Udda Lundqvist, Sweden, assisted by: Michele Stanca, Italy.
Chromosome 1H (5):	Gunter Backes, Denmark.
Chromosome 2H:	J.D. Franckowiak, USA.
Chromosome 3H:	Luke Ramsay, UK, (replaces Roger Ellis, UK who has retired).
Chromosome 4H:	Brian Forster, UK.
Chromosome 5H(7):	George Fedak, Canada.
Chromosome 6H:	Duane Falk, Canada.
Chromosome 7H(1):	Lynn Dahleen, USA.

Integration of molecular and morphological maps: Andy Kleinhofs, USA.

**b. Genetic Stocks and Collections:**

Barley Genetic Stock Center:	An Hang, USA.
Trisomics and aneuploids:	An Hang, USA.
Translocations and BTT:	Andreas Houben, Germany.
Desynaptic genes:	Andreas Houben, Germany.
Autotetraploids:	Wolfgang Friedt, Germany.
Disease and pest resistance genes:	Brian Steffenson, USA.
<i>Eceriferum</i> genes:	Udda Lundqvist, Sweden.
Chloroplast genes:	Mats Hansson, Sweden, (replaces Diter von Wettstein, USA).
Male Sterile genes:	Mario Therrien, Canada.
Inversions:	Bengt-Olle Bengtsson, Sweden, is not working with barley any more and no one has taken over this research. Therefore it was decided to discontinue with this group.
Spike morphology genes:	Michele Stanca, Italy and Udda Lundqvist, Sweden.
Semi-dwarf genes:	J.D. Franckowiak, USA.
Early maturity genes:	Udda Lundqvist, Sweden.
Biochemical mutants:	Andy Kleinhofs, USA.
Barley-wheat genetic stocks:	A.K.M.R. Islam, Australia.

Coordinators are expected to conduct current literature searches and such research in their area of responsibility as they are able. Updated information should be published in BGN annually.

**3. BARLEY GENETICS NEWSLETTER.**

Publication of Barley Genetics Newsletter will be continued in electronic format with Phil Bregitzer, USA, as main editor. An effort will be made to publish submissions to the Newsletter as they are received. The original purpose of the BGN was to publish short notes, information on genetic stocks, preliminary reports from ongoing research, and other relevant information of potential interest to the barley research community. It was not for publication of full, refereed-type articles. Reminders for submissions will be discontinued due to logistics.

#### 4. NOMENCLATURE RULES.

Minor wording modifications to Rules 6 and 7 of Gene Nomenclature and Symbolization were accepted by the group. The changes are already published in BGN 34.

**Rule 6:** (original text, summarized) Barley gene symbols should consist of three letters that designate phenotypically similar characters. A number, or a letter, represents a particular locus followed by a letter or a number, for the particular allele or mutational event. Allele symbols are separated from the gene/locus symbol with a period or dot.

**Supplementary Amendment:** (add) *Even if the locus in question is the only one known to affect a given phenotype, the three-letter basic symbol is to be followed by a serial number.*

**Comments:** Gene symbols such as *nud* are reserved for naked caryopsis in general; *nud1* is specific for the naked caryopsis 1 locus, even if no other known locus affects expression of the naked kernel trait. If another naked caryopsis locus should be discovered, it would be given the gene symbol *nud2*.

**Rule 7:** (original text) Inhibitors, suppressors, and enhancers are to be designated by the symbols *I*, *Su*, and *En*, or by *i*, *su*, and *en* if they are recessive, followed by a hyphen and the symbol of the allele affected.

**Amendment:** (change to) Inhibitors, suppressors, and enhancers are to be designated by the symbols *in*, *su*, and *en* as a suffix with a hyphen immediately following the locus modified.

**Comments:** These symbols should be assigned to loci that modify the expression of one or more alleles at a given locus. For example, the enhancer of minute (currently *en-min*) should be changed to semi-minute dwarf 1 enhancer 1 (*min1-en1*). Other symbolization should be used for genes that alter the expression of alleles at more than one locus.

**Supplementary comments:**

*After intensive discussions it was decided that this rule is no longer applicable and will not be used in barley symbolization.*

Brian Steffenson, USA, noted that he was trying to 'encourage' the use of the recommended nomenclature for disease resistance loci/alleles. There is a well-entrenched, alternative nomenclature that has been used extensively by pathologists, particularly those studying powdery mildew; it is difficult to get everyone to conform to the BGS system.

Jerry Franckowiak, USA, will be updating the map in GrainGenes with current locus order and symbolization as soon as it can be arranged.

5. Udda Lundqvist, Sweden, gave a demonstration of the on-line AceDB database for barley genes and barley genetic stocks. This database is searchable and has colour photographs of many of the more interesting morphological mutants. It is searchable under address <[www.untamo.net/bgs](http://www.untamo.net/bgs)>