

# CGN Triticum collection

Noor Bas

ECPGR wheat working group – September Piešťany



# History classification CGN wheat collection

- CGN since 1985
- 1985 – 1986 inclusion of majority of wheat accessions
  - Coming from working collections of two Wageningen Institutes
- Study on existing classifications
- Decision to use classification of Morris and Sears (1967)
  - Based on Bowden's classification

# History classification CGN wheat collection

- Some accessions Aegilops group redetermined in 1985 using
  - Witcombe's 'A guide to the species of Aegilops' (1983)
  - Ammer's 'Determinations und Bestimmungsschlüssel' (1980).
  - Both keys were quite easy to use and resulted in the same determination.
- Extra information
  - Gordon Kimer and Moshe Feldman (1987) Wild wheat: an introduction. (Univ. of Missouri-Columbia)
    - Triticum Key, photographs and descriptions
    - List of synonyms

# Classification CGN wheat collection

	#
Triticum species	acc's
T. monococcum	39
T. turgidum var. dicoccoides	257
T. turgidum group dicocon	62
T. turgidum group carthlicum	10
T. turgidum group turgidum	31
T. turgidum group polonicum	18
T. turgidum group durum	155
T. timopheevii var. timopheevii	8
T. aestivum group spelta	75
T. aestivum group sphaerococcum	2
T. aestivum group compactum	54
T. aestivum group aestivum	3998
T. aestivum group vavilovii	3
Triticum, synthetic wheat	22
Total	4734

# Classification CGN wheat collection

- genus *Triticum* – ‘*Aegilops*’ species
- 20 accessions with known subspecies

species	#acc's
<i>T. bicornis</i> Forsk.	2
<i>T. caudatum</i> (L.) Godr. & Gren.	1
<i>T. columnare</i> (Zhuk.) Morris & Sears	1
<i>T. crassum</i> (Boiss) Aitch & Hem.	7
<i>T. cylindricum</i> Ces, Pass & Gib.	4
<i>T. kotschyi</i> (Boiss) Bowden	1
<i>T. longissimum</i> (Schweinf. & Muschl.) Bowden	17
<i>T. lorentii</i> Hochst.	1
<i>T. ovatum</i> (L.) Raspail	17
<i>T. peregrinum</i> Hack. & Fraser	1
<i>T. speltoides</i> (Tausch) Gren. et Richter	27
<i>T. squarrosus</i> (L.) Raspail	78
<i>T. triaristatum</i> (Willd.) Godr. & Gren.	4
<i>T. triunciale</i> (L.) Raspail	12
<i>T. ventricosum</i> Ces, Pass & Gib.	16
<b>Total</b>	<b>189</b>

<i>Triticum speltoides</i>	subsp. <i>speltoides</i>
<i>Triticum speltoides</i>	subsp. <i>ligustica</i>
<i>Triticum longissimum</i>	subsp. <i>longissima</i>
<i>Triticum longissimum</i>	subsp. <i>sharonensis</i>
<i>Triticum squarrosus</i>	subsp. <i>strangulata</i>

# History classification CGN wheat collection

- Data on Original Botanical Taxonomy have been included in REMARKS field
  - After adaptation to Moris and Sears system
  - After redetermination
  
- E.g. *Triticum speltoides* (Tausch) Gren. et Richter  
OBN:*Aegilops ligustica* (Savign.) Coss.

# Work on Triticum collection

- CGN low priority agricultural crops
  - Focus on evaluation of vegetable crops in cooperation with breeding companies
- Distribution Triticum accessions
  - Average 500/year
  - Increase use heritage varieties
- 2011 – Rationalization with 650 accessions originally received from USDA-ARS or IPK Gatersleben
  - Archive status – seeds stored but not maintained

# Regenerations in ESP and SVK

- Landraces from NPL, IND, PAK, E-Africa difficult to regenerate in wet summers in NLD





# Work on Triticum collection - germination

- Research on germinatability material stored at +4 °C
  - Treuren et al (2018) Rapid loss of seed viability in ex situ conserved wheat and barley at 4°C as compared to -20°C storage)
- All material now stored at -20 °C.
  - Material stored in + 4 °C before 1999 replaced



# Germination test

- Since 2016 germination tests at CGN
- After 30 – 40 years:
  - 10% acc's germination below 80%
- Signs of ageing
  - Abnormal plants
  - Plants with chlorofyl-deficiency
  - Earlier monitoring





Thank you for your  
attention

