Five times larger than the human genome

Three genomes combined

- Ancestors 2X: AA "BB" DD
- Durum wheat 4X: AA BB
- Bread wheat 6X: AA BB DD

2X = two copies of each chromosome

21 chromosomes in 2 copies = 42 chromosomes

110,000 to 150,000 genes

Similar genes and a lot of repetitions

- the three sets of chromosomes have highly similar gene contents
- more than 80% of the genome is made of repetitive elements
- genes represent only 2% of the genome
A genome sequence still not known completely

Of the three main cereals produced in the world (wheat, rice & corn), wheat is the only one without a complete sequence

- **Wheat**: 2017
- **Rice**: 2002
- **Corn**: 2009
- **Barley**: 2012
- **Millet**: 2012
- **Tomato**: 2012
- **Potato**: 2011
- **Arabidopsis**: 2000
- **Human**: 2001

Chromosome by chromosome

- Each chromosome is separated using a technique called flow cytometry
- The entire genome is then sequenced chromosome by chromosome

An international collaborative effort

Each country works on its chromosome

Once done, all the data are made publicly available

www.wheatgenome.org

wheat-urgi.versailles.inra.fr