

# HIGH-YIELDING WHEAT AND CLIMATE CHANGE

In view of the current and future demand for cereals it can be assumed that any reduction in the **production intensity at one place** has to be compensated by **additional production at another place**.

Crop production causes GHG emissions, but at the same time the crops fix about 1.6 tonnes of carbon dioxide per tonne of biomass through photosynthesis.

At a yield of 18.5 t/ha (grain plus straw at economic optimum N rate) this amounts to

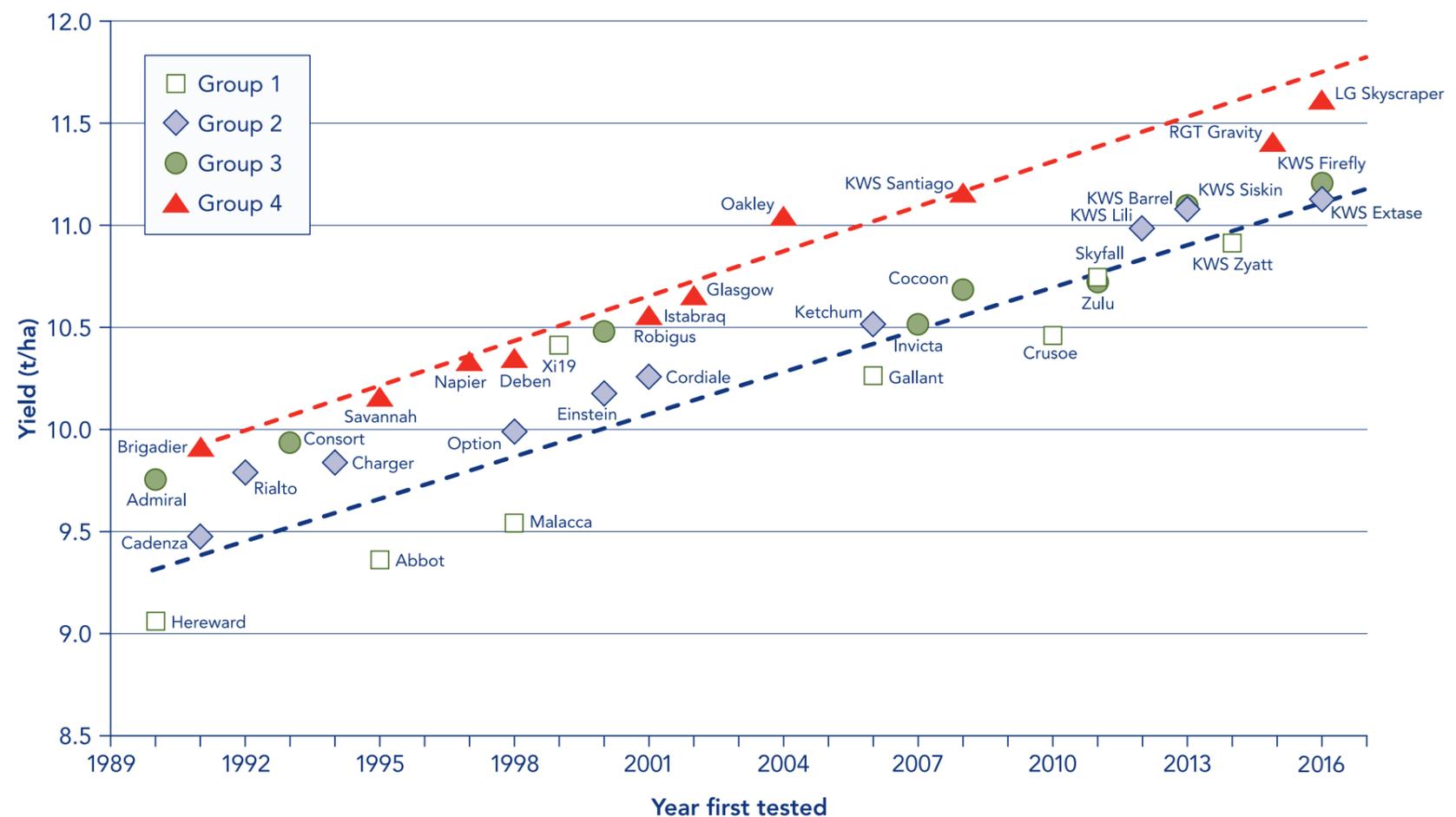
**29.6 t CO<sub>2</sub> fixation per ha**

i.e. almost 12 times the CO<sub>2</sub> emissions.

**Intensive crop production** aiming at most efficient utilisation of resources, including agricultural land, **saves GHG emissions** because natural land is potentially prevented from being converted into cropland.

If average crop yields had remained at the 1900 level, the crop harvest today would require four times more land and the cultivated area would have claimed nearly half of all ice-free continents, rather than under 15% of the total land area that is required today.

## Winter wheat yields in trials continue to rise



Longer-term, the industry should continue to encourage the development of new varieties with:

- High nitrogen use efficiency
- High water use efficiency
- High radiation use efficiency