## Seed yield responses to climate

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Field data from more than 2000 farmers in the period from 2002 to 2006 has been used to analyse how different climate conditions affect seed yield. The field data consists of different cultivars of perennial ryegrass (*Lolium perenne* L.) grown at different soil types, in different climatic regions and using different management systems. The climate data consists of temperature, radiation and precipitation and soil available water content was calculated. Climate data used in the experiment was taken from 40 * 40 km grids in Denmark.

The results showed that especially radiation up until harvest was a very important factor to describe seed yield. There was a positive effect of higher radiation 1 to 5 weeks before harvest and the highest effect was the week before harvest. The results furthermore showed a negative effect of a high radiation during the winter, but a positive effect of high temperature in the same period. The positive effect of high radiation shortly before harvest was not surprising. The negative effect of high radiation during the winter while there was a positive effect of high temperature seems contradictory but might be explained by the effect of high temperature on soil temperature.

These results are interesting for the farmers as it shows the importance of taking the optimum harvest day. From a more scientific point of view, the results are important for the breeders as it shows that utilization of radiation in the ears should be the focus.