## Dessa Consult

## **Statement**

We strongly believe that breeders of agricultural crops should be able to work independently from global forces responsible for reducing the performance of crops and crop traits. It is the breeder's job to bring crops to perform to their optimum. Breeders in their work should not have to compensate for negative influences that other sectors in the world economy induce on global food security and bio-energy production. These influences must be timely identified as such, presented to and be dealt with by the responsible sector(s).

It is our drive to contribute to the safety of the world food- and bio-energy production by helping breeders, the industry and politicians in understanding (1) the mechanisms behind the actual world trend of yield decline, (2) how to restore crop carbon use efficiency that will bring crop yields back and up to their potential and (3) how to restore crops' natural resistance to pests and diseases.

We execute and support RD&I of the necessary measures for reverting the global situation, to bring back the climate in which crops can develop uninhibited to fully express the benefits of investments made by breeding programmes.

We do this under pressure against the background that it will be before the end of this century that our world population will have reached over 10 billion people who will face the fact that crop productivity per unit of area has dropped to *half of the actual yields*. To those who hold food-security in their objectives, the dynamics of the foreseen crop production factors involved therefore *have* to change.

Through our research we discovered yield reduction as in yield decline to be due to accelerated respiration of the crops, to be subject to epigenetic memory effects that are passed on to the next generation and that are linked to variety-coupled characteristics, all of which can be manipulated through breeding and selection.

• To breeders we offer a series of activities that will help include the necessary additions to their programs to have their varieties less prone to yield decline.

In parallel, this will help create time for politicians in cooperation with the involved industries to come to fully understand and properly resolve the actual causes of yield decline.

As does every individual human on earth, we represent the human race. Respect for life is to be our legacy.

- Ir. Edwin Holman, M.Sc.
- Ir. Anne-Marie van Logchem Holman, M.Sc.

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