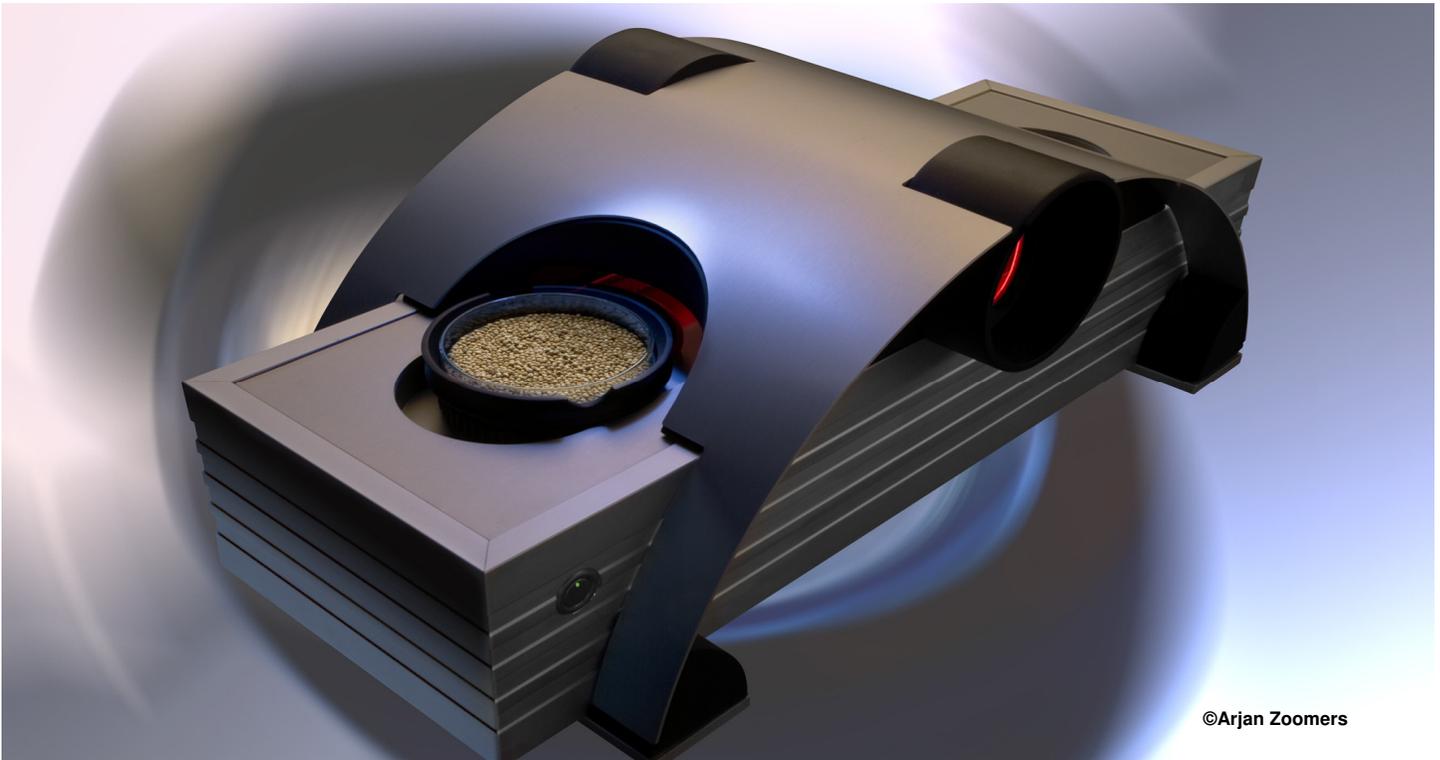


# Seed*an*alyser



## ***Fytagoras*: assessment in ripeness of seeds with Seedanalyser**

Dutch seed companies have a very large market share in the total worldwide export of seeds. The quality standard of the seeds they provide is extremely high. The breeds are unique and the seeds from the multiplication must be of high quality, homogeneous, free of disease and of contamination by weed seeds. The germination percentage and germ strength are also highly important quality properties.

### **Why detect seed maturity?**

The stage of seed maturity plays an important role in relation to seed quality. Less ripe seeds are generally of much lower quality. The quality of the seeds is also hugely influential on the resulting quality of the plant. A good batch of seeds shows homogeneous seed ripeness, while a batch which shows more variation in ripeness is usually of much lower quality.

Through the use of a maturity provision it is possible to measure the ripeness of the seeds, and thereby harvest the seeds at the most optimum period.

*'A compact measuring device that can be used in laboratories, seed processing companies and on seed production locations.'*



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By assessing the maturity of the seeds the seed producer can anticipate the possible negative influences of, for example, unfavourable climatic circumstances. The variation in seed ripeness also gives important information on quality. This information is critical for planning a number of logistical processes, such as the moment of transport to the location where cleaning and further processing of the seeds takes place, and when the sorting (the removal of immature seeds) can occur. Harvesting at the optimum moment leads to fewer losses as a result of poor seed quality and the information received from the Seedanalyser on the variation in seed ripeness heightens the efficiency of further processing, directly preventing possible financial losses for the grower.

### **Fluorescence**

Chlorophyll has the property of fluorescence, in that after it is excited it emits a specific and unique wave length. This chlorophyll fluorescence for seeds has been developed at plant research international (PRI), part of Wageningen UR. The technique is a very sensitive, fast, non-destructive method for measuring chlorophyll in seeds. Scientifically it has been shown that chlorophyll fluorescence (CF) can be used as an effective indicator of seed ripeness: as the quantity of chlorophyll decreases during seed maturation, ripe seeds contain smaller quantities of chlorophyll than immature seeds.

### **Maturity provision of seeds with the Seedanalyser**

Maturity provisions with the Seedanalyser are simply and fast. Clean seed monsters of the production field are put in a glass Petri-dish. The seeds are excited and the chlorophyll quality of the seeds is measured. The Seedanalyser performs this measurement in less than a minute. The CF-signal corresponds with the ripeness of the seeds. Ripe seed gives low fluorescence values, and immature seeds give values of a higher fluorescence. These results can be used in a seed ripeness report and as an indicator of quality, import and/or export control.

The Seedanalyser has been developed within project in cooperation with plant research international and the seed companies. This collaboration has resulted in a compact measuring device that can be used in laboratories, seed processing companies and on seed production locations.



### **Advantages of the Seedanalyser**

- **Higher seed quality**
- **Reliable insight into optimal harvest time**
- **Fewer losses caused by bad seed quality**
- **Fast results**
- **Compact apparatus, includes software**
- **Simple service**



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