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In the evaluation of seed batches the time required for the test is often a limiting factor for seed producers, seed treatment companies and seed traders. To obtain full test results requires several days in conventional systems. By using a non-invasive method, based on fluorescence life-time properties of an oxygen sensitive dye, to measure oxygen concentrations we developed a seed evaluation test that is both rapid and accurate. This so called Q2-test measures in a fully automatic way the oxygen consumption of a large number of single seeds within 12 to 48 hours (depending on de species). From the oxygen consumption profiles several important seed quality parameters can be derived. Among these are the homogeneity of a seed lot, the vigorousness of a batch, the presence of dead seeds, the presence of dormant seeds. In addition, presence of fungal infections can be readily seen. Besides these germination related parameters also critical oxygen concentrations (COP) of seed lots can be determined. In the presentation the Q2-test will be introduced based on measurements on sugar beet seed lots.

Physiology and Biotechnology  
Poster Presentations