Technology Licensing Opportunity

University of Saskatchewan

Novel, single treatment application to increase germination with positive impact on crop growth and development under both optimum and stress conditions

Market need

Early seed germination, seedling establishment and enhanced root development are all critical factors to increasing yield through advanced flowering and avoidance of heat/drought stress in mid-summer in Canada and globally.

This method provides flexibility in seeding time to help with risk management in field; seeding time could be shifted to avoid fall frost, midsummer heat and drought stress through greater spring seedling vigour. This is a significant opportunity to make sure a variety of crops (canola, spring wheat, oilseed etc) can sustain all different kind of weather impacts for best yield.

Manufacturing/marketing beneficiaries include, but are not limited to, industry where fast seed of germination is of interest such as industry using malting/fermentation-based procedures, food and feed industry, seed additives/enzymes sector, crop protection sector, etc.

Benefits to our approach

This novel single treatment application is inexpensive, and it is only needed to applied once to the crop. The treatment has significant effect on all three critical factors (mentioned above) and can be applied in both developed and developing countries through soaking, priming or spray.

Over 30 crops/cultivars have been assessed under optimum and low temperature stress environments.

While further research is required, sufficient evidence indicates significant short- and long-term effect on plant growth and development in arrange of crops.

Background

This novel seed treatment was shown to have a profound and consistent effect on increasing seed germination under low temperature conditions and increased lateral root growth. This seed treatment is not simply a plant extract with unknown properties.

This treatment is based on known catalytic reaction using a transition metal and may also be used for organic production.

Inventors: Karen Tanino, Andrew Olkowski, and Bernard Laarveld

Reference number: 12-039

For more information:
University of Saskatchewan
Research Excellence & Innovation
Jaime Speed Jaime.speed@usask.ca

rei@usask.ca
+1 306 966 1465

250 – 15 Innovation Blvd Saskatoon, SK S7N 2X8 Canada

UNIVERSITY OF SASKATCHEWAN
Research Excellence and Innovation
OFFICE OF THE VICE-PRESIDENT RESEARCH
RESEARCH.USASK.CA