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UNIVERSITY

DCA - DANISH CENTRE FOR FOOD AND AGRICULTURE

PERSPECTIVE

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DCA – DANISH CENTRE FOR FOOD AND AGRICULTURE

Food and agricultural science
Research-based policy support
Knowledge exchange and industrial collaboration
National and international research alliances

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Cover photo

Morten Ambye-Jensen carries out research in biorefining technologies, and the new biorefining plant at AU Foulum will play an important role in the transition towards circular and more environmental and climate-friendly agriculture. Read more on page 16.

Photo: Lars Kruse, AU Photo.

DCA – Danish Centre for Food and Agriculture publishes the annual report Perspective. The report contains information about the work that underpins Aarhus University's research-based policy support in food and agriculture.

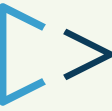
The publication provides examples of new projects and recent research results including collaborations with commercial companies and organizations.

It is our vision that Perspective will generate interest and understanding – in research as well as policy support – and illustrate how these efforts help strengthen the foundation for important societal decision-making.





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Can **garlic and berries** prevent weaning diarrhoea?

In both Danish and international pig production, weaning diarrhoea in piglets constitutes a problem – for animal welfare as well as economics. So far, antibiotics, zinc oxide and synthetic organic acids have been used to prevent and treat diarrhoea. However, the problem of antibiotic resistance and the environmental consequences of the accumulation of zinc in the soil has resulted in political and consumer demands for a reduction of the use of antibiotics and for phasing out the use of medical zinc oxide.

Led by researchers from Department of Food Science, Aarhus University and in cooperation with researchers from Department of Animal Science, the MAFFRA II research project builds on the hypothesis that garlic may constitute an alternative to antibiotics and zinc oxide; and now, together with the industry, they will try to document this.

Many plants produce defence substances, including antimicrobial substances, and the project builds on previous studies investigating a series of plant species and their contents of antibacterial substances. Project work efforts mainly concentrate on ramson and garlic, both of which contain the bioactive compound allicin; a compound that has been known for ages for its antimicrobial activity, however, it was never used as much as traditional antibiotics.

Allicin concentrations may vary between different garlic varieties, a fact also reflected in antimicrobial activity. The allicin content of garlic is significantly higher than that of ramson. In spite of this, the antimicrobial effect of ramson may often be better, which is due to interactions with other plant substances. However, ramsons are difficult to cultivate and produce and must be gathered in nature, and therefore, the project focuses on garlic, for practical and economic reasons. Within the framework of the project, garlic will be combined with sour berries, which seem to increase the antimicrobial effect and prevent diarrhea by reducing the pH value (acidity).

