

# Innovation results

AN R&D CASE STUDY

#037



## A British apple a day keeps the doctor away

### The need

Ensuring we get our five-a-day of fruit and vegetables has become a familiar mantra in the quest for better health.

Research has shown that polyphenols found in fruit and vegetables can offer some protection against diseases such as cancer and heart disease. Cancer and coronary heart disease are two of the UK's most serious health conditions, together accounting for between 40-50% of adult deaths. However, intensive production methods have reduced the amount of polyphenols found in today's food supply. This means we have to eat far more fruit and vegetables to reap the benefits.

Now, a British food research company has found ways to extract beneficial ingredients from ancient apples and put them back into our food, making products that could treat some of the UK's most serious diseases.

Ancient varieties of British apples are providing the source of an ingredient that could help ward off heart disease and cancer.

### The results

Orchards in rural Herefordshire have been yielding rare varieties of apple since the sixteenth century. While many of them have now been bred out of the food system, British scientists have discovered they contain concentrated amounts of a polyphenol called epicatechin, which has properties that can increase blood flow by relaxing the arteries. Increased blood flow reduces blood pressure, and helps increase brain blood flow a potentially important factor is the development of vascular dementia.

Coressence's research to date supports the hypothesis that people who habitually consume epicatechin-rich apple juice exhibit a higher life expectancy relative to other populations.

With the help of investment from the Technology Strategy Board, British company Coressence has been working in partnership with the Institute of Food Research. They have been extracting the epicatechin-rich ingredients from several apple varieties and adding them to existing food products like juice and cereal bars.

One product, marketed under the Evesse brand name, is already on the market in a juice called RDA. The company says a glass of Evesse juice provides the epicatechin equivalent of eating up to 30 modern dessert apples and has the effect of making arteries appear years younger than their actual age. Studies have also shown that the product works to reduce

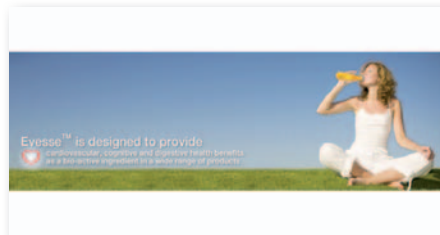
arterial stiffness within 30 minutes, peaks in two hours and lasts for around six hours.

Epicatechin extracted from the Evesse apples has been developed as a liquid and powder supplement and a natural food colour to make other 'super' food products that could bring about revolutionary health benefits.

As a result of their initial clinical effectiveness Coressence has signed a licensing and supply agreement with Danisco A/S, a world leader in food ingredients, enzymes and bio-based solutions and Evesse EPC will be launched initially as a daily food supplement. The company is in the process of signing further global

multi-national licences to market their products. According to Mintel, the UK functional foods market was worth £613m in 2007, and is forecast to increase to more than £1bn by 2012.

Three further clinical trials are also underway with results to be published in mid-2011, but the indications are that the ingredients could have cardiovascular, anti-inflammatory, anti-cancer and cognitive health benefits.



'Funding from the Technology Strategy Board has helped us take a giant leap forwards in realising the potential health benefits of these ingredients,'

RICHARD WOOD, CHIEF EXECUTIVE,  
CORESSENCE LTD.



## Technology Strategy Board

Driving Innovation

Collaborative research and development projects are one of the tools that the Technology Strategy Board uses to drive innovation in the UK. The Technology Strategy Board is a business-led executive non-departmental public

body, established by the Government. Its role is to promote and support research into, and development and exploitation of, technology and innovation for the benefit of UK business, in order to increase economic growth and improve the quality of life. It is sponsored by the Department for Business, Innovation and Skills (BIS).

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**Project no.** J0009J

**Project Duration**

October 2006 -  
September 2008

**Partners**

Coressence Ltd  
Institute of Food Research

**Total project Cost**

£246,392

**Technology Strategy Board investment**

£123,713

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