

Cars Could Run on Fuel made from Potatoes

Boffins in the US have figured out a way to produce hydrogen from starch, typically found in potatoes and corn. The method has proved so effective, there is a strong chance it may be a practical way to create hydrogen to power fuel-cell vehicles.

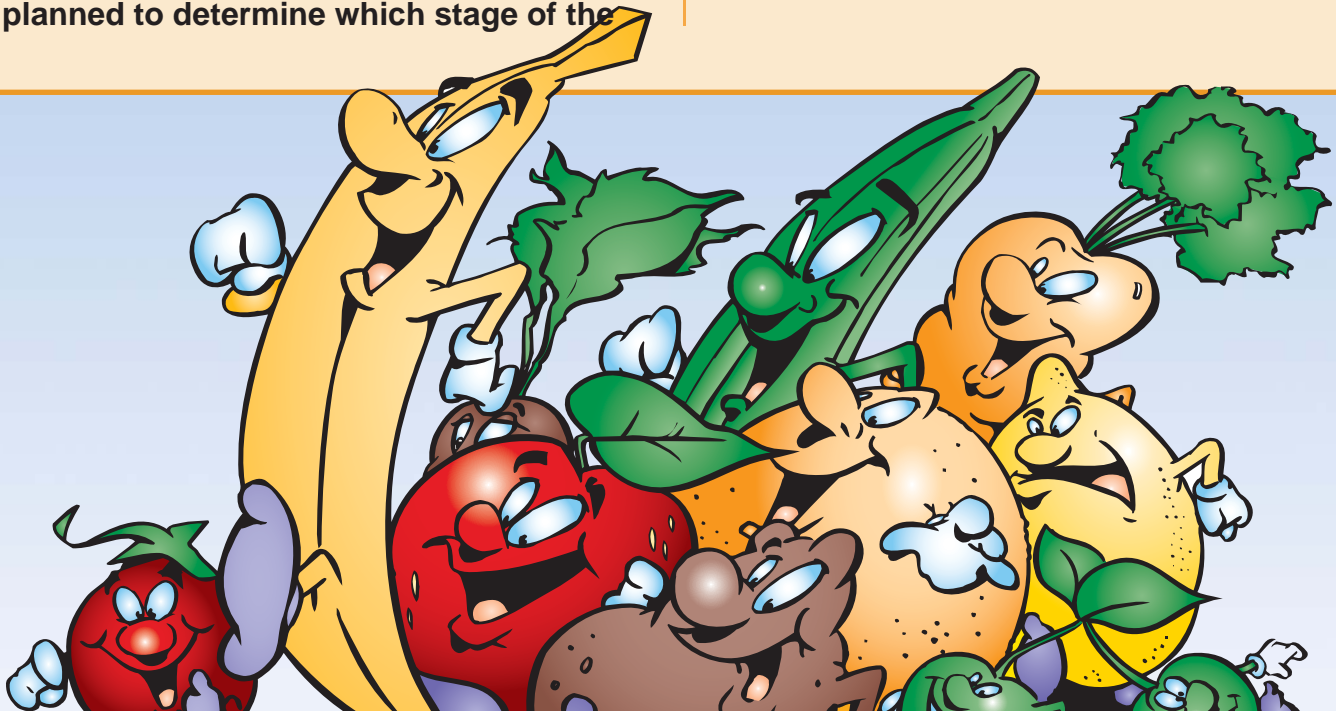
Fuel-cell vehicles are an attractive way forward as they produce no pollutants. However, the challenge has always been how to produce the hydrogen to fuel them. Hitherto it has been extracted from fossil fuels or made by electrolyzing water – a costly and time-consuming process.

But now researchers from Virginia have concocted a blend of 13 commercially available enzymes (isolated from yeast, bacteria, spinach, and rabbit muscle!) which encourage chemical reaction between starch and water, producing hydrogen in the process. The process gives a high yield of hydrogen although the rate at which it is produced is slow. Further experimentation is planned to determine which stage of the

process is producing a by-product that may be slowing things down.

One of the first applications of the system could be generating hydrogen for fuel cells in portable electronics. The starch is likely to be a safer way of storing energy than using methanol, a current popular option for such small fuel-cell systems. Several years worth of development is still required to get to that stage. In time, scientists hope to solve the biggest problem currently facing hydrogen fuel-cell vehicles: fitting enough hydrogen on board to compete with petrol or diesel-powered vehicles.

There are some doubts that the system would be a practical way of producing onboard hydrogen, but even so it could prove useful for producing hydrogen at fueling stations. Still others question the wisdom of using food produce as the basis for creating a fuel. Demand for corn – which is used to make ethanol – has already resulted in increased food prices.



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