

Marc Van Montagu, Winner of the World Food Prize

In autumn 2013 Marc Van Montagu, emeritus professor of molecular biology at Ghent University, won the World Food Prize 2013. He shared the honour with two American colleagues: Mary-Dell Chilton and Robert T. Fraley. The trio were awarded the prize for their individual breakthroughs as pioneers of modern green biotechnology, further development of this field, and the creation of applications. Van Montagu is the first Belgian to share in the Nobel Prize for Food and Agriculture.

Marc Van Montagu (° 1933) is a pioneer of genetically modified crops. For donkeys' years this subject, so central to the food we eat, has met with serious resistance in certain circles (environmental organisations such as Greenpeace). Opponents speak of genetic *manipulation*, and land with genetically modified experimental crops, once tracked down, often becomes a target for activists, to Van Montagu's horror. He accuses his opponents of using emotional arguments and claims they do not shrink from systematically spreading misinformation.

It all started at the end of the 1970s in the molecular biology laboratory at Ghent University. Van Montagu, born in a working class district in Ghent, the only child of a "militant socialist family" with his nose constantly in a book, was keen to continue with his studies - anything to avoid the dusty world of the textile worker. At seventeen he went on to study chemistry. In the fifties, when James Watson and Francis Crick unravelled the double helix structure of DNA, Van Montagu fell under the spell of molecular biology. After receiving his doctorate in 1965, he was made professor of molecular genetics at Ghent and founded the VIB (*Vlaams Instituut voor Biotechnologie*), which he directed until his retirement in 1999.

In that modest laboratory, "kept open by hook or by crook", lies the origin of gene technology that dominates large scale agriculture today. It



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was groundbreaking work. Van Montagu and his colleagues had to achieve what results they could with limited means and a good deal of hard work. At the end of the seventies that led to the development of what is called the Ti plasmid: DNA transferred to a plant's genes by the soil-dwelling bacterium *Agrobacterium tumefaciens*. The genetic transfer became all the more interesting when it was discovered that the bacterial DNA could be replaced by other DNA, from external hereditary material.

In 1982 Van Montagu and his colleague Jozef Schell (1935 - 2003) started the company Plant Genetic Systems, a spin-off from his laboratory at Ghent University. A year later they presented their first genetically modified plant in the prestigious scientific journal *Nature*: a tobacco plant made antibiotic-resistant by a "new" gene. This genetic defence mechanism in plants offered new perspectives on alternatives to chemical weed killers. For that reason the discovery attracted a great deal of attention, including that of the University of Washington and the multinational agricultural giant Monsanto, home to both other winners of the World Food Prize 2013.

The development of genetically modified crops with the associated higher yields and health benefits (a famous example being Golden Rice with vitamin A) is of great significance to agriculture and world food production. In 1998 Van Montagu was closely involved in the founding of CropDesign, another spin-off from Ghent University, involved in biotechnology and genetic modification of crops. Van Montagu hopes his innovations will provide "food security" for the entire world popu-

lation and enable us to farm less intensively, with less pollution. In 2000 Van Montagu set up the Institute of Plant Biotechnology Outreach, an institution at Ghent University which aims to meet the needs of less-developed countries with training, technology transfer and scientific research into plant technology.

Genetically modified maize and soy are used “invisibly” in many products in the United States, but in Europe, even thirty years after their introduction, genetically modified organisms (GMOs) still meet with substantial resistance in some quarters. Van Montagu can become very worked up about this: an interview in the Flemish newspaper *De Standaard* on 29th June 2013 carried the headline “Opposition to GM is a crime”. Looking back on the past thirty years Van Montagu believes he was too slow to stand up to what he considers a misleading and false impression of the issues as presented by his opponents. For example, he mentions the myth of suicides by small farmers in India, who were reportedly forced by Monsanto to work with their genetically modified seeds. “Completely false,” according to Van Montagu.

Van Montagu claims that GMOs enable farmers to achieve bigger harvests sustainably and at lower costs. Seeds in the lab developed and tested on experimental plots have higher nutritional value thanks to their genetic modification, or are more resilient when faced with drought, poor soil, disease, or pesticides. “We’re just getting started,” says Van Montagu. “Genetically modified crops are an effective weapon against hunger and good for the environment. Genetic change in crops is as old as the world. Since the invention of agriculture humans have been making genetic changes by crossbreeding plants. Current techniques for modifying plants are very precise methods for something that has been in vogue for thousands of years.”

DIRK VAN DELFT

Translated by Anna Asbury

A Cassandra in the City

Joris Luyendijk

The Dutch journalist Joris Luyendijk (° 1971) embodies the future of his profession in more ways than one. The fact that his name has become almost a brand in its own right illustrates the still embryonic but unmistakable emancipation of journalists with respect to their media. Through his work as a financial blogger for *The Guardian* in London, Luyendijk demonstrates that impersonal, engaged reporting need not stand in the way of objective quality.

Admittedly, not all his colleagues like Joris Luyendijk. And some of them have good reason. The US-dwelling Dutch columnist Charles Groenhuijsen, for example, was recently described by Luyendijk as “an idiot. And I don’t mean that tongue in cheek; he really is a criminally naive idiot.” The reason for this is that Groenhuijsen believes that NSA whistleblower Edward Snowden is a traitor, while Luyendijk considers him a hero.

Subjecting members of his own profession to (highly) critical scrutiny is something of a trademark of Joris Luyendijk. While many accuse him of soiling his own nest, his robust but always carefully argued media criticism always provokes thought and reflection. He is a qualified anthropologist, and that is evident in the way he looks at news and reporting. For example, he finds it difficult to reconcile himself with the notion that a correspondent – be it abroad, in a war zone, in the political or financial/economic sector – should actually become part of the exclusive biosphere about which he or she reports.

It was on precisely this topic that he wrote the booklet *People like us*¹, a critical review of his earlier spell as a Middle East correspondent for various Dutch media between 1998 and 2003. In the book he shatters the illusion that foreign correspondents are able to make sense of the world from their location. While they can occasionally put their own slant on a report, generally they simply carry out instructions given to them by the