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What's cropping up in this issue?

by Chris Willmott, Science Editor



Since 1973, the European Union (as it is now known) has organized regular public opinion surveys across member states. In 2000, one of these Eurobarometer studies asked people if they agreed with the proposition, 'Ordinary tomatoes do not contain genes, while genetically modified tomatoes do'. Thirty-five percent of respondents said the statement was true, 35% said the statement was false and the remaining 30% said they were not sure. In other words, roughly two-thirds of those surveyed were not convinced that ordinary tomatoes contain genes, even though their 'day job' is to make other tomato plants.

Although I am confident that most readers of *The Biochemist* would have had no problem with answering that question, I do suspect that fewer of us are routinely applying our background knowledge of genetics and genomics in the specific realm of plant science. For many, the root (pun noted, but not intended) of our disengagement from botanical matters lies in curriculum design. Much as post-16 education (in the UK, at least) forces us to decide if we are 'doing Arts' or 'doing Sciences', embarking on a journey along the Biology route frequently confronts us with a further dichotomous choice between 'molecular' and 'organismal' pathways.

I have not traditionally considered myself to be a 'planty person', although I must admit that a lockdown foray into home-growing vegetables has revealed a previously undisclosed desire to apply the scientific method to matters of horticulture. I have also enjoyed the perk of priority access to the feature articles on genomic and related methods for crop improvement that we are considering in the current issue. These include:

- Applying lessons learnt regarding antimicrobial resistance in a clinical setting to combat herbicide resistance in weeds
- Agricultural benefits of improved understanding of the regulation of the plant immune system
- Improving crops by manipulating the plant microbiome
- Role of RNA methylation as a signal, for example, in response to environmental stress
- Innovations in synthetic biology and natural product chemistry to enhance the potential of plants as factories for producing medically relevant compounds, and
- Addressing the additional complexities of genome manipulation in hexaploid crops such as wheat.

Whether or not you have an academic interest in plants, I believe you will find something of interest in these articles. ■