Cloning tool spots 'foreign DNA,' minimizes off-target changes with CRISPR gene editing

Researchers from Polytechnic University of Valencia, <u>Spain</u> and Durham University in the UK developed a tried and tested cloning system for <u>genome editing</u> with a monitoring module that lights up when a transgene is detected. This new technique provides an option for researchers to have an efficient elimination of editing system after genome editing, minimizing the chance of off-target mutations, and also allows development of edited plants free of foreign DNA.

The new modular cloning system called Golden Braid has been tested in tomatoes, <u>rice</u>, and Arabidopsis. It was found that the fluorescence visualization worked well in dry seeds, indicating the presence of transgenes in tomato, rice, and Arabidopsis, which allows an efficient way to select transgene-free T2 dry seeds. The researchers detected <u>gene editing</u> of selected traits in T2 plants and identified homozygous gene-edited plants with different mutations.

Results of the study published in <u>Frontiers in Plant Science</u> show that the developed strategy allows fast collection of transgene-free edited crop plants after just one generation after transformation.

Read full, original article: Biotech Crop Update, September 4, 2019