

Sorghum gene could help cut massive crop damage caused by birds without harming them

A single gene in sorghum controls bird feeding behavior by simultaneously regulating the production of bad-tasting molecules and attractive volatiles, according to a study publishing September 23 in the journal [Molecular Plant](#). This gene, called Tannin1, controls the synthesis of bird-deterrent astringent polyphenols called tannins, as well as bird-attracting fatty-acid-derived volatile organic compounds. The authors suggest that the findings could lead to novel control strategies to protect major cereal crops worldwide.

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Damage by birds causes great loss to agricultural production worldwide. With cereal crops, birds cause damage by pecking seeds and sucking the juice of immature seeds, preventing full development of many grains and frequently encouraging mildews and other plant diseases. Currently, there are few efficient control measures to protect field crops from bird damage. For example, anti-bird nets can require immense manpower and material investments, and they can harm birds.

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[O]ur insights about which compounds attract birds and which compounds are distasteful to birds, [says co-senior study author Qi Xie of the Chinese Academy of Sciences,] suggest we could chemically or genetically block the activities of enzymes in attractant volatile biosynthesis or program the condensed tannin content or use tannic acid or condensed tannins as safe, green pesticides to protect crop seeds in the field.”

Read full, original article: [Discovery of sorghum gene that controls bird feeding could help protect crops](#)