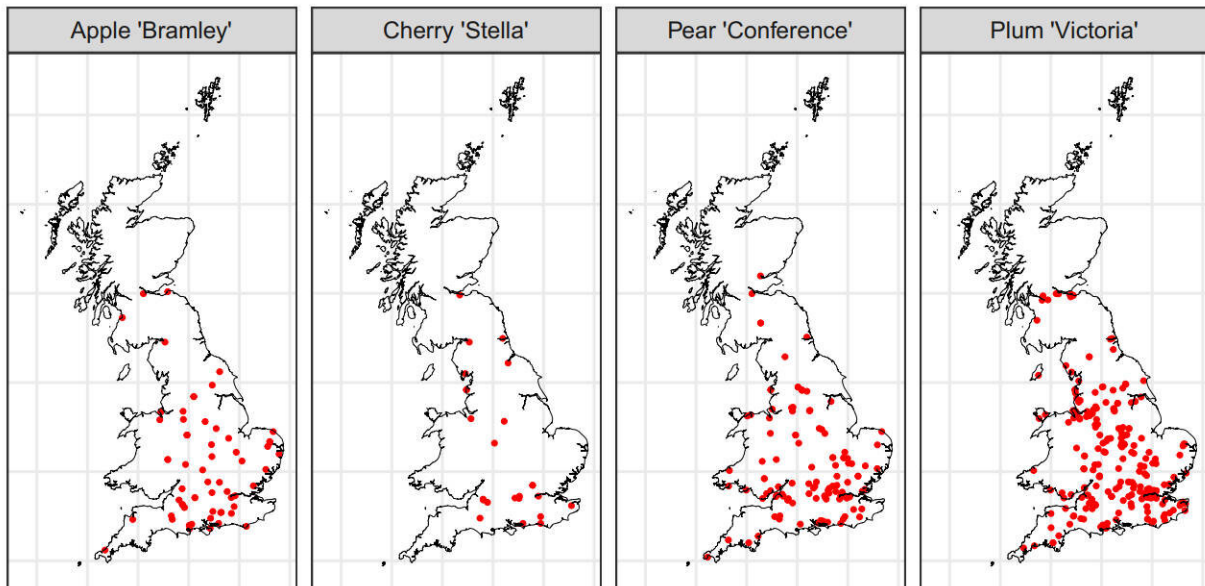# FruitFlow: A new citizen science initiative unlocks orchard secrets

July 18 2024

Geographic location of flowering onset record submissions for each cultivar. Credit: Horticulture Research

The "FruitWatch" initiative, a groundbreaking citizen science project, has significantly enhanced the accuracy of predicting flowering times for fruit trees across Great Britain. This improvement is vital for the agricultural sector, enabling better planning for pest management and pollinator support, which are crucial for maintaining optimal fruit yield and quality.

Accurate flowering predictions are essential for orchard management, impacting decisions related to pest control and pollination. Traditional data collection has been limited both geographically and botanically, often missing the broader variability of flowering across regions. Expanding research to incorporate a more diverse range of data is critical, improving the precision and relevance of predictive models for enhanced orchard management.

This study, published in *Horticulture Research* in April 2024 and conducted by the University of Reading and Oracle Corporation, introduces "FruitWatch." This innovative platform collects widespread data contributions from the public, improving the prediction of flowering onset times for various fruit trees in Great Britain, with a focus on real-time and geographically diverse data acquisition.

Analyzing data from 2024 for four main fruit tree cultivars, the study identified notable latitudinal delays in flowering times. "FruitWatch" has significantly refined phenological models by integrating extensive citizen-sourced data, which spans a wider geographical area than traditional methods.

These enhanced models offer growers precise, location-specific predictions, essential for optimizing agricultural planning and interventions. This method not only addresses significant gaps in data but also boosts the precision and accuracy of predictions, facilitating superior orchard management based on robust, real-time data.

Dr. Chris Wyver, the lead researcher, emphasizes, "Incorporating citizen science into phenological predictions marks a major leap forward for agricultural science. Engaging the community broadens our data pool, enabling more detailed and actionable insights for both farmers and researchers."

The "FruitWatch" initiative's success provides a valuable model for other agricultural regions. By improving the accuracy of phenological models, farmers can better align their operations with natural biological cycles, enhancing both yield and quality. Additionally, this approach fosters a community-centric model of scientific research, potentially revolutionizing data collection and usage in ecological and agricultural research globally.

More information: Chris Wyver et al, New citizen science initiative enhances flowering onset predictions for fruit trees in Great Britain, *Horticulture Research* (2024). DOI: 10.1093/hr/uhae122

Provided by NanJing Agricultural University