***Cite this as*:** Wang ZHANG, Yi REN, Zidi GUO, Han LI, Man ZHANG, Jie LIU, Ruicheng QIU, 2026. Improved lightweight convolutional neural network models for the detection and evaluation of Fusarium head blight in wheat. *Journal of Zhejiang University-SCIENCE B*, 27(5):450-465.
https://doi.org/10.1631/jzus.B2500225

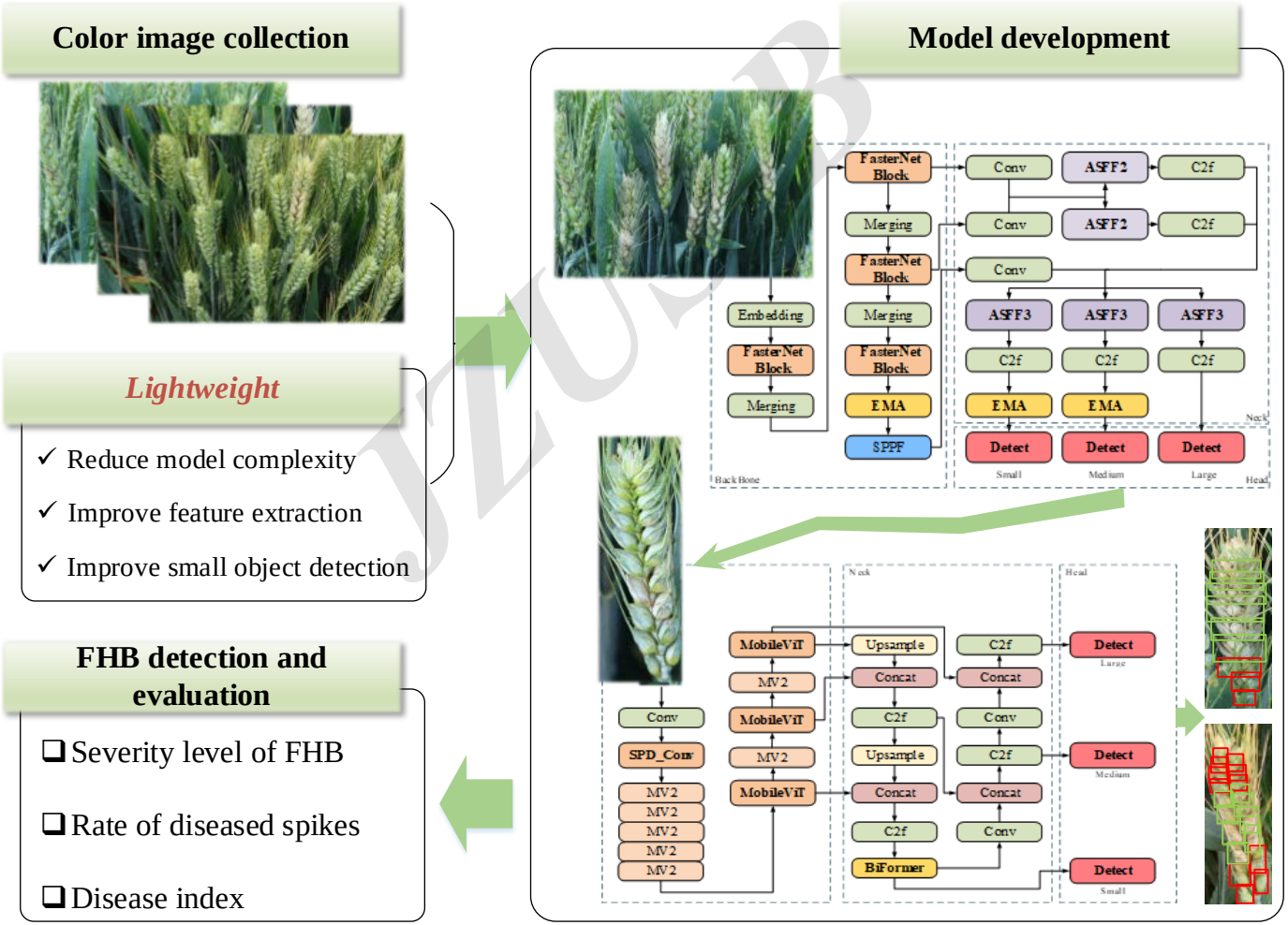
JZUS-B

Improved lightweight convolutional neural network models for the detection and evaluation of Fusarium head blight in wheat

Key words: Fusarium head blight (FHB); Lightweight neural network; Disease detection; You Only Look Once (YOLO) v8s artificial intelligence (AI) model; Deep learning

Research Summary

- This paper proposes a method for detecting and evaluating wheat FHB using color imaging and deep learning.



Innovation points

- **Lightweight models were proposed for wheat FHB detection and evaluation.**
- **The models can quantitatively evaluate the FHB severities at individual and population scales.**

