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SUPPLEMENTARY MATERIAL

Kinetic analysis and parameter optimization of cone frustum-steel roll baling mechanism for round balers

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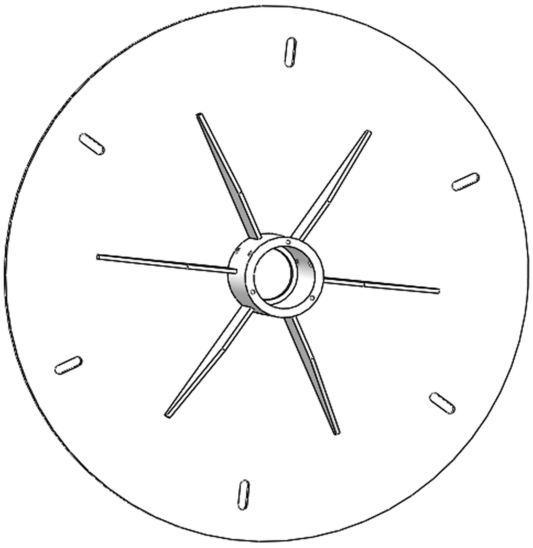


Figure S1. Structural schematic for the circular base plate.

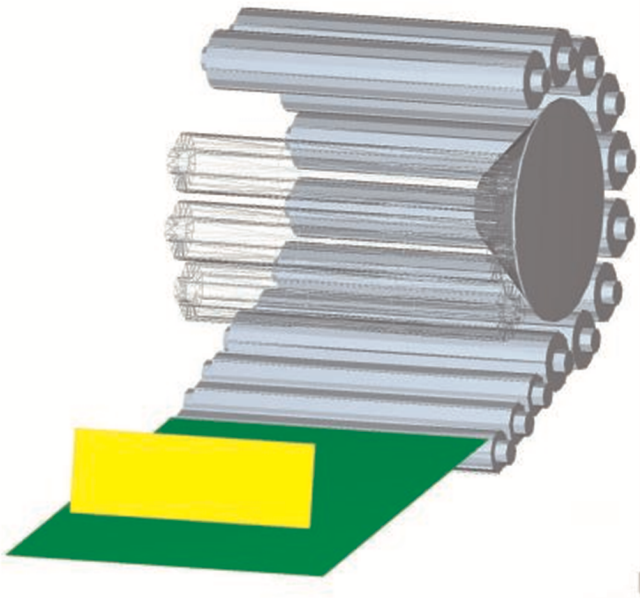


Figure S2. Simplified model of the cone frustum-steel roll baling mechanism.

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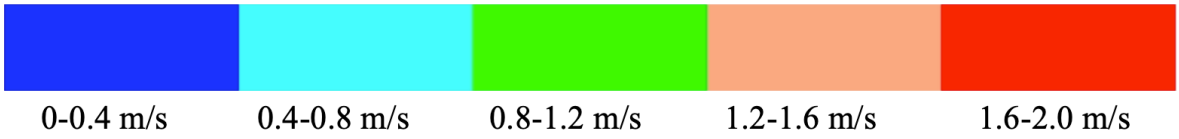


Figure S3. Color comparison in the analysis of wheat straw velocity.

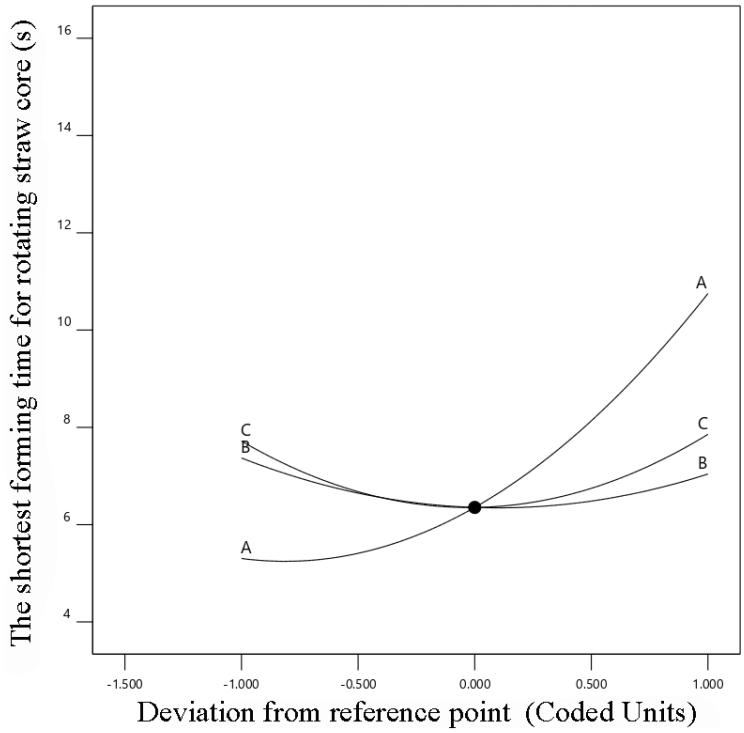


Figure S4. Perturbation curves for the influences of various factors on the formation time of a rotating straw core.

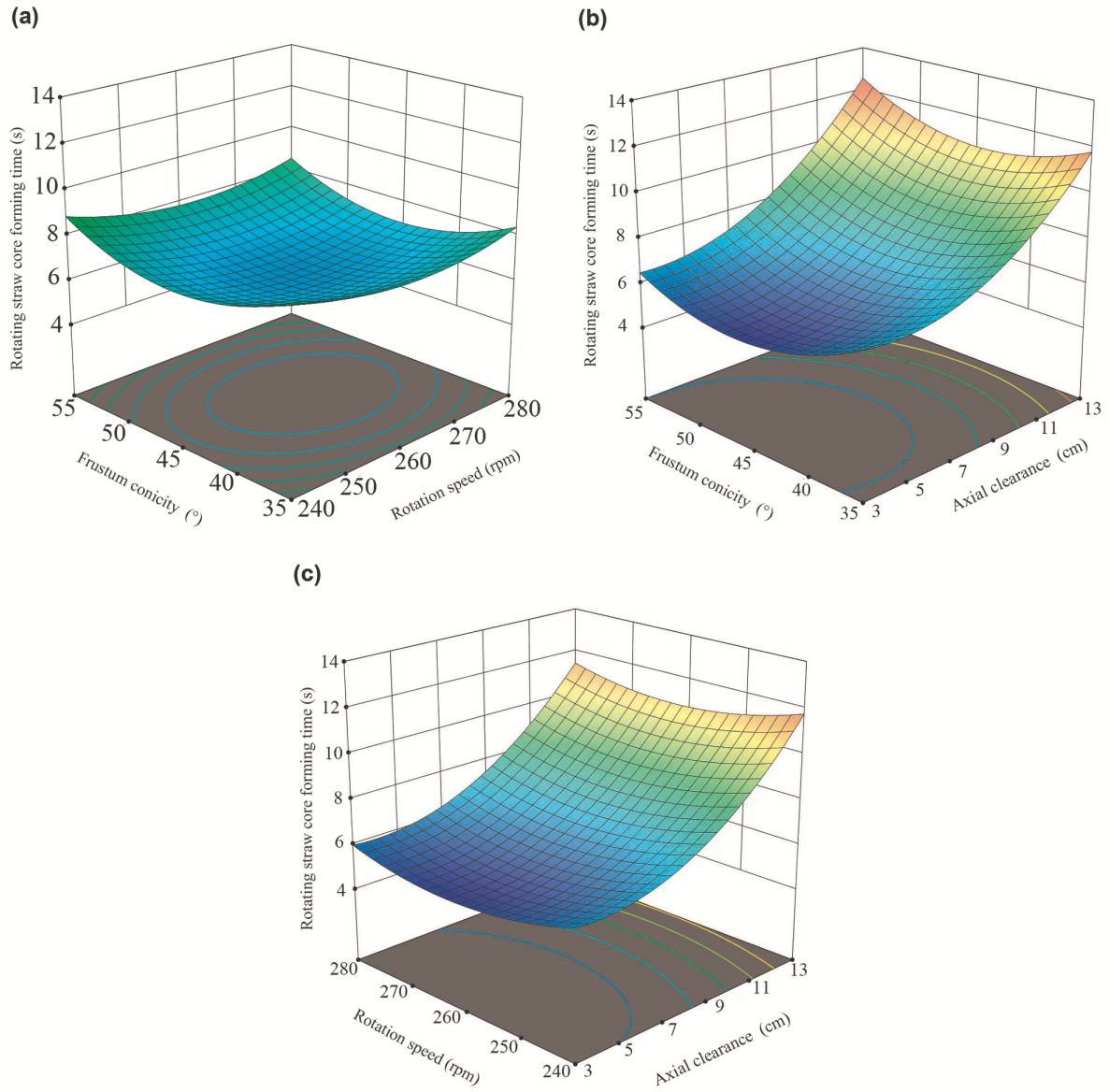


Figure S5. Response surfaces for the influences of the main and secondary effects of three factors on the formation time of a rotating straw core. a) Rotation speed-frustum conicity. b) Axial clearance-frustum conicity. c) Axial clearance-rotation speed.



Figure S6. Experimental verification of the cone frustum-steel roll baling mechanism. a) Manual assistance for rope winding. b) Complete straw bales.

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