

ICAR-CIAE Remote-controlled multi-purpose track-type vehicle for small farm

Utility

This is remote-controlled, self-propelled track-type vehicle for small farms to reduce human drudgery and ensure operator safety. It is powered by an 8.9 kW petrol engine and features a hydraulic transmission system, track-type mechanism, electronic control unit (ECU), remote controller, real-time vision monitoring system, and an anti-collision unit. The track system includes rubber tracks, load wheels, drive wheels, tensioners, and a chassis



frame. Hydraulic power is transmitted via a pump and solenoid valves to actuators—hydraulic motors drive the track wheels, while hydraulic cylinders control the lifting and lowering of attached implements. The system allows remote control of direction, speed, braking, and implement operation from up to 500 meters away. A real-time vision system enables monitoring during operation, and an emergency stop feature helps avoid collisions. This system enhances safety, reduces labor, and allows operators to work from a safe location, even in adverse weather conditions.

Specification and Performance results

Field capacity	:	0.16 ha/h
Field efficiency	:	74.6%
B:C ratio	:	2.12

Design: ICAR-CIAE (RS), Coimbatore (T.N.)

Commercialization Status: Ready for Commercialization

Proposed stakeholders: Farmers, Manufacturers etc.

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