

Supplementary Table 1 Solar-powered agricultural vehicle specifications

| Specification              | Value                        |
|----------------------------|------------------------------|
| Vehicle weight             | 300 kg                       |
| Cargo capacity             | 400 kg                       |
| Solar panel capacity       | 4.5 kWh                      |
| Battery type               | Lithium iron phosphate       |
| Battery voltage            | 60 V                         |
| Battery capacity           | 72 Ah                        |
| Maximum speed              | 25 km/h                      |
| Wheel type                 | Wide wheels (field-suitable) |
| GPS system                 | Included                     |
| Number of integrated tools | 7                            |