



# GPS Tracking Technologies for Agriculture to Improve Farming Practices

Ligita Miksa\*

Department of Agricultural Technologies, Vytautas Magnus University, Kaunas, Lithuania

## DESCRIPTION

Global Positioning System (GPS) has always ranked high in the field of navigation system and has provided numerous applications to different industries. One such is the agriculture industry which is revolutionizing with the use of digital technologies in farming such as drones, remote monitoring, sensors and GPS technology in farming practices. GPS system provides many benefits and various opportunities to farmers for effective farming practices, crop maintenance and production of good quality of crops by monitoring and eliminating pathogen affected areas through early treatment. Manufacturers of GPS equipment have created a number of solutions to assist farmers and agribusinesses in increasing the productivity and efficiency of their precision farming operations. Today, a lot of farmers employ equipment generated from GPS to improve farm operations. In order to map field boundaries, roadways, irrigation systems, and crop problem areas like weeds or disease, GPS devices gather location data. Due to GPS's accuracy, farmers may produce farm maps that include exact acreage for field regions, road locations, and separations between objects of interest. Using GPS, farmers can annually navigate to specific fields to collect soil samples or check on the health of their crops.

## Applications of GPS tracking technologies

- **Making yield maps:** Using GPS data, farmers may identify crop-producing areas and those that require more irrigation by creating yield maps that compare the yield distribution over time within a field. The statistics also examine the moisture level of a field.
- **Soil sampling:** GPS and mapping tools assist in organising the field-collected soil samples. This information is used to assess the characteristics and conditions of the soil, indicating whether it is suitable for a certain crop or not. Additionally, it aids in the efficient use of herbicides and fertilisers and reduces pollution.
- **Guidance for tractors:** The tractor's RTK GPS serves as a manual guidance system. When a field is ploughed with a

recorded GPS system, a tractor can be programmed to follow the same path for cultivation, harvesting, and the necessary crop spacing.

- **Weed Location:** Weed prevents a plant's growth. By using the linear sampling method to locate weeds, the GPS system aids in the growth of a crop.
- **Creating tools:** GPS-enabled tools with programming enhance farming operations and assist agribusiness in being more productive and efficient.
- **Harvesting:** GPS plays a significant part in harvesting by assisting in calculating the size of the area to be harvested and the method by which it will be carried out.
- **Accurate planting:** GPS aids in accurate planting by providing information on the depth and space needed to plant a seed; Livestock tracking is made possible on large farms by GPS transmitter collars linked to the animals. Using GPS, crop duster operators may target regions where pathogen and insect problems are present; the information enables crop duster pilots to sparingly treat the problematic areas rather than treating the entire field, which saves time and limits chemical exposure.

A geofence is a virtual, intangible fence. A GPS device crosses the "fence," which initiates a reaction. Geofences are used to both keep things in and keep them out. They can alert people to restricted areas or areas that need to be left alone for a time while soil cultivation is taking place, or they can let people know if a truck or piece of equipment has been stolen from our property. In order to prevent farm animal mishaps or injuries, geofences also assist farmers in identifying regions that need tending (fertilizing or harvesting), locating areas that have been treated with pesticides or are thought to be organic growth areas, and isolating land where livestock may be grazing.

The large expanse of land utilized for farming can make it difficult to keep track of pricey farm machinery and vehicles. Locating vehicles and equipment is simple with the help of GPS tracking devices and fleet management programmers. If a powerful storm is predicted to traverse a section of their land, we may identify which of their assets are at risk and, if required, have them moved to prevent damage. Additionally, GPS tracking

**Correspondence to:** Ligita Miksa, Department of Agricultural Technologies, Vytautas Magnus University, Kaunas, Lithuania, E-mail: miksaligita@gmail.com

**Received:** 03-Oct-2022, Manuscript No. AGT-22-18592; **Editor assigned:** 06-Oct-2022, PreQC No. AGT-22-18592; **Reviewed:** 20-Oct-2022, QC No. AGT-22-18592; **Revised:** 27-Oct-2022, Manuscript No. AGT-22-18592; **Published:** 03-Nov-2022, DOI:10.35248/2168-9881.22.11.286

**Citation:** Miksa L (2022) GPS Tracking Technologies for Agriculture to Improve Farming Practices. Agrotechnology. 11:286

**Copyright:** © 2022 Miksa L. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

provides real-time visibility into field personnel' locations, which can facilitate decision-making and enhance communication. Additionally, with the ability to monitor your equipment in real-

time, fewer personnel can manage greater areas with less supervision, which lowers the cost of seasonal labor.