

ABSTRACT

Indonesia is a country that is right on the equator, so farming is a natural thing in this country. This country has fertile soil, one of the factors is that it is always exposed to the sun throughout the year. In Bandung there is a Gambung Tea and Quinine Research Center (PPTK). The tea and quinine plantations there are very wide, there are many types of tea and quinine that can be processed. Farmers generally see this very large tea plantation without any help, this of course makes it difficult to see the actual maturity level of the tea leaves because what is seen from the side is not necessarily the same as the plantation in the middle.

This quadcopter tool will certainly make it easier for farmers there because they no longer need to travel far. It is enough to set which points will be sampled by the tool and the mature plantations will be harvested and processed immediately. This system also uses the autopilot feature so there is no need to use the remote control to direct it. The quadcopter will fly from the home location and then go to a predetermined point and will land again at the starting point of the flight.

Quadcopter has a mission that can be set by the user, in the future farmers can use it to help optimize their work processes. The quadcopter is designed in such a way as to suit the plantation terrain. But the Quadcopter still has an error of about 3,2% at 20 m and 2,3% at 10 m altitude.

Keywords: *quadcopter, autopilot, home location*