

AUTOMATIC PARAMETRIC CONTROL FOR INCUBATION SYSTEM

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ABSTRACT

Our project “Automatic Parametric Control For Incubation System” is actually to provide the plant a better environment to grow. This is a system only for indoor planting which is the small plant like tomato, strawberry and chilly. This system is built with water and chemical level detector, automatic chemical spraying circuit, automatic light control circuit and insect repellent circuit.

In recent study, we found out due to our environment is getting polluted especially the air, this cause acid rain. When this acid rain absorb into the soil, this made the plant root easily rot. We hope indoor planting will help the farmer increase the productivity.

But we found out that the possibility of the farmer getting skin decease especially skin cancer is quite high due to long-term exposure with planting chemical. So we built an automatic chemical spraying circuit that is established with IC time, 3-digit counter and suction motor. The IC timer is used to set a delay before the chemical is start to sprat and is a safety purpose to make sure nobody staying around the area. The 3-digit counter is allowing the farmer to set the spraying duration while the suction motor is suck the chemical in the chemical tank and through a pipe pass to the plant.

This system also equipped with fluid indication system, which is consist of infrared level detector circuit and water level alarm circuit. Infrared level detector is to make sure the farmer can know the chemical amount in the chemical tank is in low. The checking distance between the transmitter and receiver is up to 50cm only. As we know, plants need watering every day and this indoor planting need a tank to supply the water to the plant. The water level alarm is to alert the farmer when the water in the tank is low. There are 6 checking level indicate by LED and the farmer can set the suitable level for alarm to sound.

Another thing is plant need light to do photosynthesis process, this would help plant to grow in daytime. But the photosynthesis process will reduce if raining in the daytime because the environment will become dark. To help plant to grow, this system will provide artificial light control by dark on relay circuit. This circuit will off to save the energy and let plant stop photosynthesis like normal time without disturb the natural being lives to minimize the chemical dosed applied to the plant, insect repellent circuit is built in this system t reduce to possibility of insect to harm the plant.

This system also can help farmer reduce the cost especially in hiring the workers and reduce the farmer work.