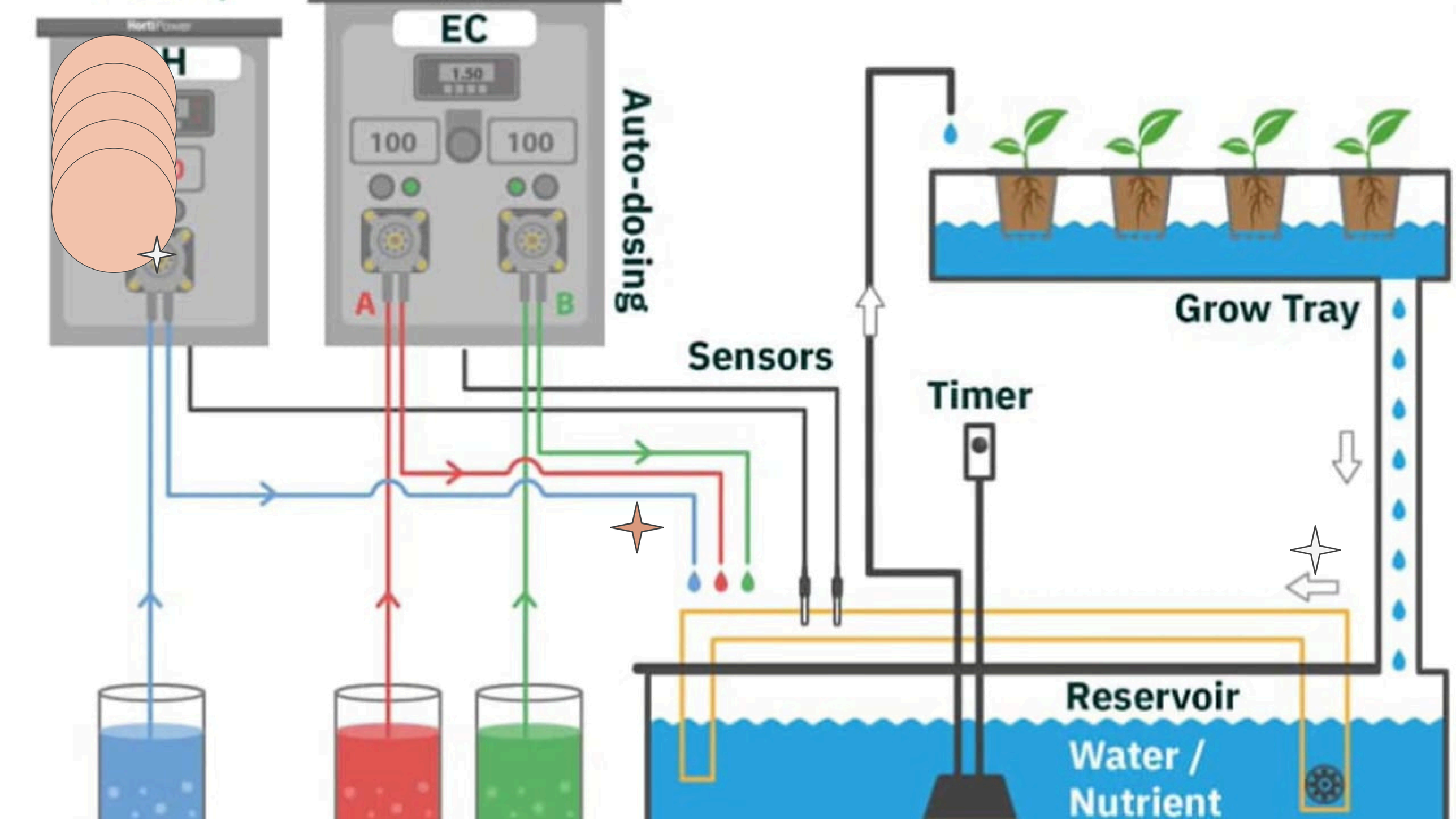
Hydroponics system prototype

Abstract

Egypt's imports of soybeans in the last 8 years have reached more than 17.31 million tons, and this is due to the importance of soybeans because they are used in many uses. Therefore, we decided to solve the problem and the solution is to use one of the types of hydroponics and integrate it with modern technology, but there are many obstacles to this solution, the most important of which is the high risk rate in hydroponics due to the lack of technological awareness. Therefore, we worked to provide and spread this technology at the lowest possible cost. What we have reached is that we have made a prototype of a machine that measures many sensors to increase the efficiency of the process. What we seek is to operate the system in the most automated way possible


EC
1.50
100
100
A
B
Auto-dosing
Sensors
Timer
Grow Tray
Reservoir
Water /
Nutrient

_apr13a | Arduino 1.8.19

Sketch Tools Help

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```
e <Wire.h>
e <OneWire.h>
e <DallasTemperature.h>
e <Adafruit_GFX.h>
e <Adafruit_ILI9341.h>
e <Adafruit_TouchScreen.h>

إعدادات //
 TFT_CS     10
 TFT_RST    9
 TFT_DC     8
 TOUCH_CS   7

t_ILI9341 tft = Adafruit_ILI9341(TFT_CS, TFT_DC, TFT_RST);
t_TouchScreen ts = Adafruit_TouchScreen(6, 5, 4, 3, 300);  أرقام المنافذ لمستشعر اللمس (X, Y, Z, T) //

 oneWire(2);  منفذ حساس الحرارة //
emperature sensors(&oneWire);

 الحساسات و //
sensor = A0;
sensor = A1;
_sensor = A2;
ter = 10;
ler = 11;

H_value, EC_value, TDS_value, water_temperature;
loat temperature_target = 25.0; (C°) درجة الحرارة المستهدفة //
loat temperature tolerance = 1.0; (C°) هامش السماح //
```

mpiling.

```
ses 3292 bytes (10%) of program storage space. Maximum is 32256 bytes.
variables use 189 bytes (9%) of dynamic memory, leaving 1859 bytes for local variables. Maximum is 2048 bytes.
```

INNOVATION MINDS

Farming

System Monitoring

Plants Diseases

```
result_index = np.argmax(predictions) #Return index of max element
print(result_index)
```

```
27
```

```
# Displaying the disease prediction
model_prediction = class_name[result_index]
plt.imshow(img)
plt.title(f"Disease Name: {model_prediction}")
plt.xticks([])
plt.yticks([])
plt.show()
```

Start coding or generate with AI.