

# PFC\_EDU: Food Computer User Interface (the “UI”)

Connect to your EDU, connect to the internet, register and get growing!



# Have you completed your build?

Are you ready to connect to the Food Computer User Interface (UI)? By the end of these instructions, you'll be able to use a Climate Recipe to grow plants in your Personal Food Computer (PFC\_EDU).



# Oh, the steps you'll take to grow...

This guide will help you...

1. Connect your computer to your PFC\_EDU
2. Login to the OpenAg Brain (system dashboard), where you will
  - Connect your PFC to Wifi
  - Register your PFC with the OpenAg Cloud
  - Create your account in the Food Computer UI
3. Once you have an account in the Food Computer UI, you will
  - Link PFC(s) to your account, create a profile, download a Climate Recipe
  - Get growing!



# STEP 1 | Connect your computer to your PFC

1. Make sure your PFC\_EDU is plugged into an electrical outlet.
2. Look for the Serial Number (S/N) sticker on the Central Nervous System (CNS) on the top of the PFC\_EDU. The CNS is the green electronics board. The sticker says **S/N: EDU-X-XXX**.



You'll use that WIFI code to connect your computer to the BeagleBone on the PFC\_EDU in the next step.

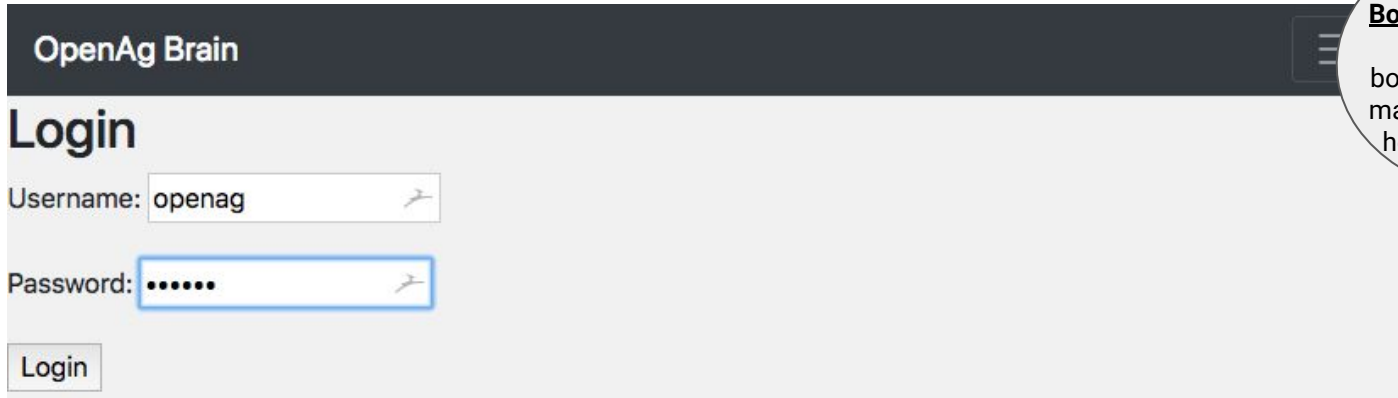
# STEP 1 | Connect your computer to your PFC

3. Connect your computer to the BeagleBone that will be in your available Wifi networks (**BeagleBone-XXXX**). The password for the BeagleBone is **“BeagleBone.”** Unique, we know.



# STEP 2 | Connect your PFC to Wifi

1. Open a tab in your browser and type in this URL: <http://192.168.8.1>
2. You're now in the **OpenAg Brain**, the advanced system dashboard for your PFC\_EDU.
3. Log in with User: **openag** Password: **openag** (unique, we know)



OpenAg Brain

## Login

Username:

Password:

Login

**Bookmark #1:** Save this link as a bookmark/favorite. You may need to come back here for tech support.

# STEP 2 | Connect your PFC to Wifi

4. Once logged in, you should automatically be sent to the **Connect** page, under the **Provision** dropdown (ignore other OpenAg Brain tabs for now).

OpenAg Brain Dashboard Peripherals Provision System User Help

## Connect

### Networking

TRENDnet711

openag12  Show Password

**Join Wifi**

If you have trouble connecting to your wireless network, please try the: [Advanced wireless network configuration](#)

**Status:** Connecting, this will take a few minutes...

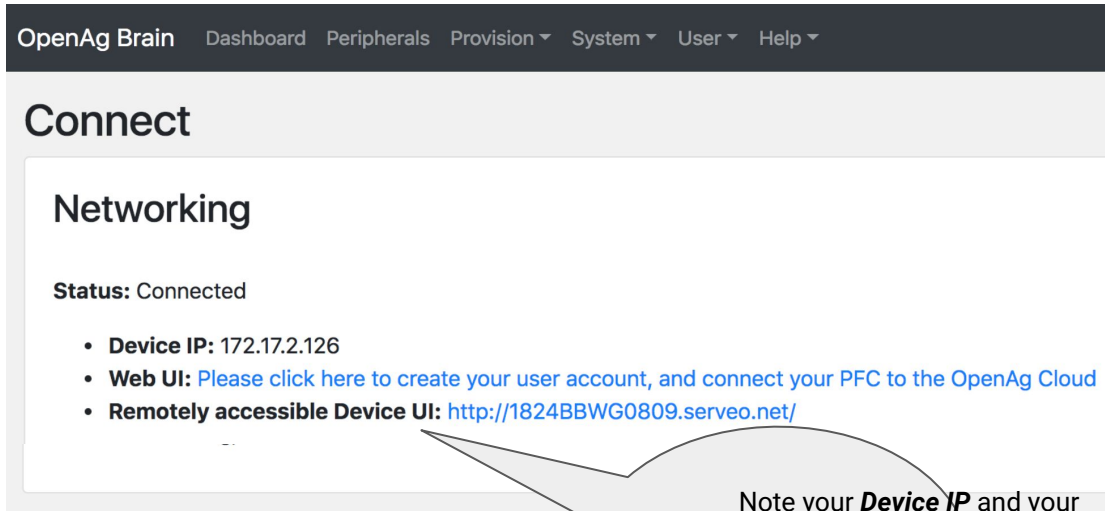
If you are not automatically sent to the *Connect* page, then manually click on *Connect* under the *Provision* dropdown.

You may need help from your IT professional to connect using the *Advanced wireless network configuration* page.

# STEP 2 | Connect your PFC to Wifi

5. Under **Networking**, select your local Wifi from the list, and type its password.

6. Click the **Join Wifi** button. Wait a minute or so for the **Status** to show **Connected**. Your PFC\_EDU is now connected to the internet in your local Wifi!



The screenshot shows the OpenAg Brain dashboard with a navigation bar at the top containing 'OpenAg Brain', 'Dashboard', 'Peripherals', 'Provision', 'System', 'User', and 'Help'. Below the navigation bar is a 'Connect' section with a 'Networking' sub-section. The status is 'Connected'. A list of information is provided:

- **Device IP:** 172.17.2.126
- **Web UI:** [Please click here to create your user account, and connect your PFC to the OpenAg Cloud](#)
- **Remotely accessible Device UI:** <http://1824BBWG0809.servo.net/>

Note your **Device IP** and your **Remotely Accessible Link**.

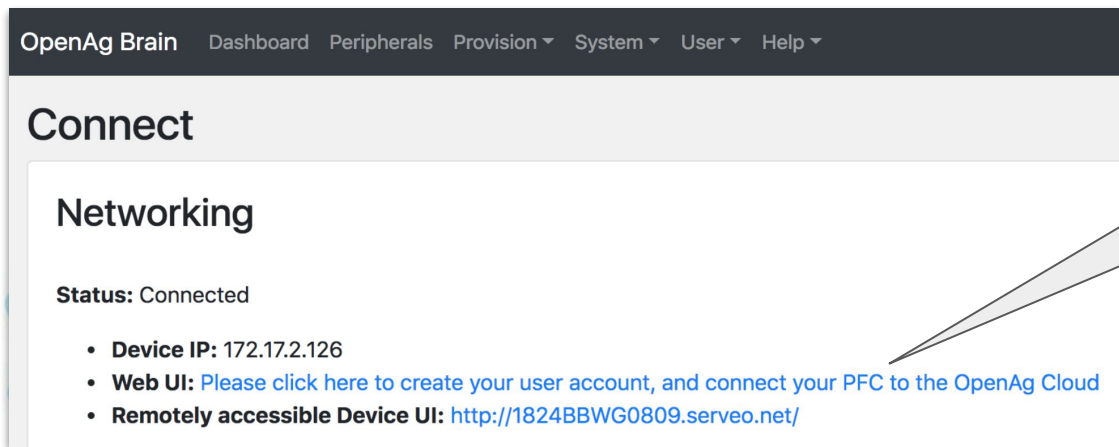
You will only need this information when requesting tech support.



# STEP 3 | Register your PFC in the OpenAg Cloud

Your computer is connected to the PFC\_EDU, the PFC is connected to the internet, now you need to register your PFC\_EDU in the OpenAg Cloud.

1. Click the link next to “Web UI.” This will open a new tab, where you’ll create an account in our browser-based **Food Computer User Interface**, and register your PFC in the OpenAg Cloud.



The screenshot shows the 'OpenAg Brain' dashboard with a navigation bar containing 'Dashboard', 'Peripherals', 'Provision', 'System', 'User', and 'Help'. The main content area is titled 'Connect' and has a sub-section for 'Networking'. The status is 'Connected'. Below this, there are three bullet points: 'Device IP: 172.17.2.126', 'Web UI: Please click here to create your user account, and connect your PFC to the OpenAg Cloud', and 'Remotely accessible Device UI: http://1824BBWG0809.serveo.net/'. A speech bubble points to the 'Web UI' link.

OpenAg Brain Dashboard Peripherals Provision System User Help

## Connect

### Networking

Status: Connected

- Device IP: 172.17.2.126
- Web UI: [Please click here to create your user account, and connect your PFC to the OpenAg Cloud](#)
- Remotely accessible Device UI: <http://1824BBWG0809.serveo.net/>

The **OpenAg Cloud** is how all the PFCs communicate with each other & with the [Open Phenome](#) - where Climate Recipes are created and stored.

**open  
agriculture** 

# STEP 4 | Create an Account in the Food Computer UI

1. You should be on a new tab, at the **Food Computer UI** login page. The URL is <https://openag-v1.appspot.com>. Click **Create an Account** (below the login button).
2. Create a Farmer Name\* (username), password, add your email, & your organization's name. You'll complete the rest of your profile later.

Food Computer

username

password

LOGIN

Not registered? Create an account



Food Computer

FarmerPaula

.....

paula@openag.com

OpenAg|

CREATE

Already registered? Sign In

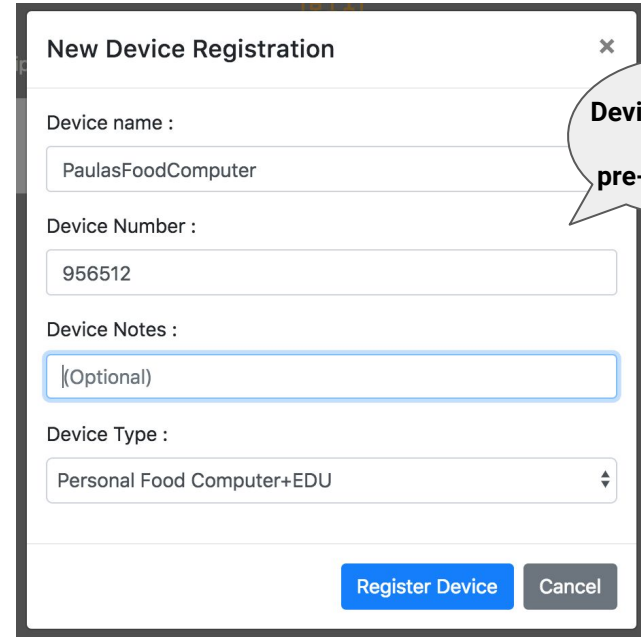
\*Your username - or **Farmer Name** - will be shown as a hashtag when you post on **Twitter** from the Food Computer UI, so choose wisely!

**Bookmark #2:** Save this link as a bookmark/favorite. It's Food Computer UI for easy access:

# STEP 5 | Connect your PFC to your UI Account

Once you've created an account, a pop-up dialog will appear. This is where you connect your PFC with your UI account.

1. Give your PFC\_EDU a name (this will appear on Twitter and the Forum), any device description you'd like, and make sure PFC\_EDU is selected for **Device Type**.
2. Click **Register Device**.



New Device Registration

Device name :  
PaulasFoodComputer

Device Number :  
956512

Device Notes :  
(Optional)

Device Type :  
Personal Food Computer+EDU

Register Device Cancel

Device # should be pre-populated.

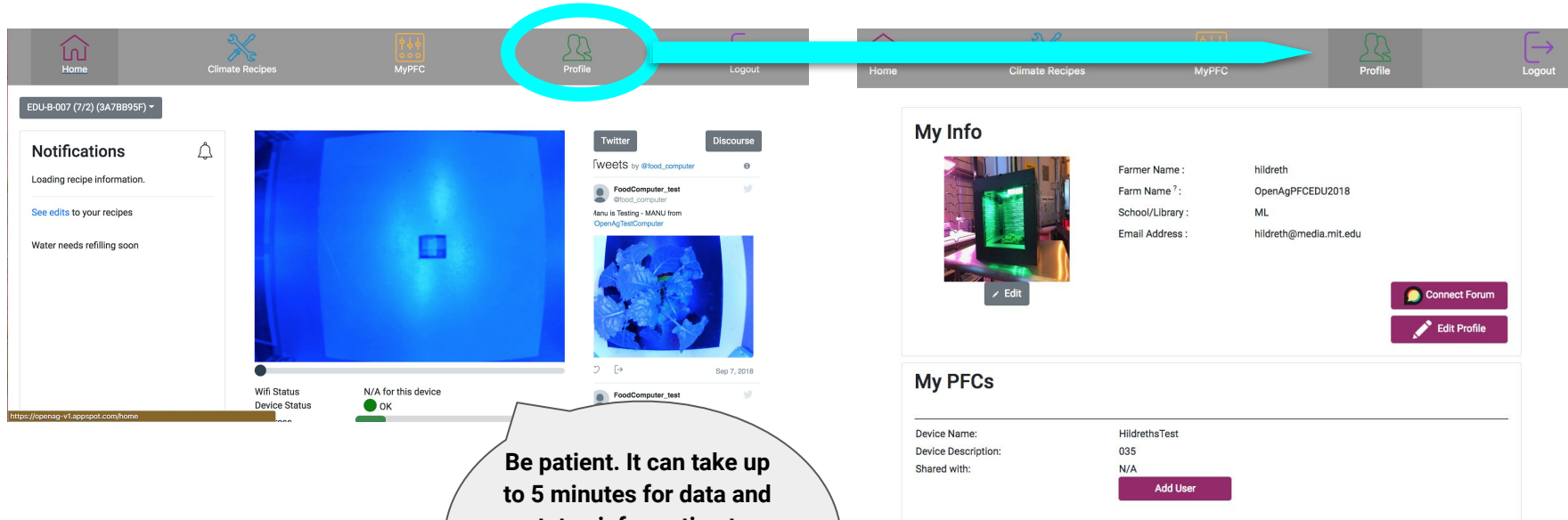
# STEP 6 | Using the Food Computer UI

1. On your computer, go to your Wifi selection, and reconnect your computer *back* to your local Wifi (not the BeagleBone Wifi).



# STEP 6 | Using the Food Computer UI

2. You're on the Homepage. To get started, update your profile.



The screenshot displays the Food Computer UI. The top navigation bar includes Home, Climate Recipes, MyPFC, Profile (highlighted with a red circle), and Logout. A red arrow points from the Profile button to the 'My Info' section. The 'My Info' section shows a profile picture, a list of fields (Farmer Name, Farm Name, School/Library, Email Address), and buttons for 'Connect Forum' and 'Edit Profile'. Below this is the 'My PFCs' section with fields for Device Name, Device Description, and Shared with, along with an 'Add User' button. A callout bubble points to the device status area, stating: 'Be patient. It can take up to 5 minutes for data and status information to show up on your homepage, and up to an hour for the first picture to appear.'

**My Info**

Farmer Name : hildreth  
Farm Name ? : OpenAgPFCEU2018  
School/Library : ML  
Email Address : hildreth@media.mit.edu

[Connect Forum](#)  
[Edit Profile](#)

**My PFCs**

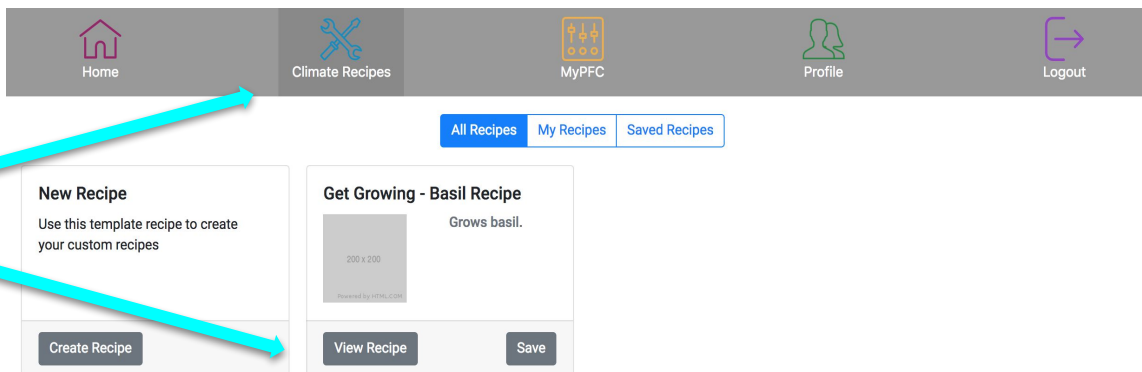
Device Name: HildrethsTest  
Device Description: 035  
Shared with: N/A  
[Add User](#)

Wifi Status: N/A for this device  
Device Status: OK

**Be patient. It can take up to 5 minutes for data and status information to show up on your homepage, and up to an hour for the first picture to appear.**

# STEP 6 | Using the Food Computer UI

3. Next, go to **Climate Recipes**.
4. Click “View Recipe” for the **Get Growing Basil** Climate Recipe.



# STEP 6 | Using the Food Computer UI



[Back to climate recipes](#)



## Climate Recipe for growing Basil

**SCIENTIFIC NAME** Ocimum basilicum  
**NATIVE TO** Tropical regions from Central Africa to Southeast Asia  
**DAYS TO MATURITY** 4-6 Weeks  
**CULINARY USES**

Basil is most commonly used fresh in recipes. In general, it is added at the last moment, as cooking quickly destroys the flavor. The fresh herb can be kept for a short time in plastic bags in the refrigerator, or for a longer period in the freezer, after being blanched quickly in boiling water. The dried herb also loses most of its flavor, and what little flavor remains tastes very different, with a weak coumarin flavor, like hay.

**FIELD NOTES**   
As basil is growing in the PFC\_EDU, take notes on what is changing on the plant. For example, look for any spots both on the top and bottom of the leaf. Many times if there is a bug problem, such as mites, they will start eating on the underside of the leaf. Other field notes to take include any discoloration of leaves, wilting or damage to the stem. A unique quality of growing hydroponically is that you can easily look at the roots. Check the color and smell of the roots as indicators of plant health. If the roots are white and do not have a fishy smell, they are healthy... and healthy roots = healthy shoots!

**SETTINGS**

Name	Actuator/Sensor	Value
LED Spectrum for standard day	LED Panel	FLAT Spectrum
LED illumination distance for standard day	LED Panel	10 cm
LED Spectrum for standard night	LED Panel	OFF Spectrum
LED illumination distance for standard night	LED Panel	10 cm
Standard night	LED Panel	6 hours
Standard day	LED Panel	18 hours
Sampling Frequency - Temperature	Temperature Sensor	Everytime temperature changes
Sampling Frequency - Humidity	Humidity Sensor	Everytime humidity changes
Sampling Frequency - CO2	CO2 Sensor	Everytime CO2 changes

**DESIRED ENVIRONMENT**

Name	Value	Measured By
Temperature Set Point	25 (°C) Celsius	Temperature Sensor
Humidity Set Point	65 (%) Percent	Humidity Sensor
CO2 Set Point	450 ppm (Parts per million)	CO2 Sensor

[Download & Run](#)

5. Check it out, and click **Download & Run.**



# STEP 6 | Using the Food Computer UI

6. Wait a few minutes, and before you know it, the white spectrum LED lights should come on. **Your PFC\_EDU is now on, connected, registered, and ready to grow!**

