

# SmartAg: Smart Agriculture in action

A small group of companies (HP, IBM, Ingadi Flower Farm, Seeed, SoftServe Inc.) came together late in 2020 to demonstrate how edge computing solutions could improve agriculture. One of the published [core beliefs](#) of the group is "with sufficient sensors and data, you should be able to apply the optimum resources to grow crops to their maximum yield". This [Special Interest Group](#) (SIG) is hosted by the [Open Horizon](#) open-source software project that lives within [LF Edge](#), part of the Linux Foundation. All meetings are open to the public, and meeting recordings and presentation materials are published on the SIG's wiki page.

The [initial effort](#) of the group will be to grow a variety of hot-weather crops in two hoop houses on a plot at the [Ingadi Flower Farm](#) in Chelsea, Alabama. Hoop houses are a row of curved support hoops covered with heavy plastic that can extend the growing season of crops in a location by weeks or months. As an experiment, the same crops will be grown in the same layout in adjacent 10' x 20' hoop houses. Both houses will contain identical sensors to collect soil and air data at one-minute intervals, and will be configured to send alerts when the soil moisture exceeds pre-configured thresholds. One will be watered based on the farmer's best judgement, and the other will be watered based on the collected data. When the crops are harvested, the yields will be compared to see which technique or approach was superior.

We intend to publish a Bill of Materials (BOM) for the hardware used, software developed, and data collected so that anyone can replicate the results should they wish to do so. Additionally, the data can be analyzed to see what additional learnings can be derived as well as what changes should be made to data collection for future growing plans. We also plan to publish detailed blog posts at [the IBM Developer Blog for Open Horizon](#) that will give step-by-step instructions on how to set up your own Smart Agriculture solution based on what we learn.

Please watch this space weekly for updates. And post any comments and questions below.