



SMART FARMING SOLUTIONS

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# Better yield with less resources

Automated irrigation and precise plant nutrition for  
**Berries**



# What is ONDO?

ONDO is an all-in-one farming automation solution made up of:



**Controller** that connects to and controls your existing farm infrastructure for irrigation, fertigation and climate control



**Software platform** for management of the controller

ONDO will ensure precise irrigation management and control, precise fertigation and climate control thanks to:



Real-time, 24/7 monitoring of your plants



Advanced analysis of the data received and decision-making based on predefined target conditions



Automated action steps and follow-up control



# ONDO for Berries



The interest to growing berries is triggered by their favorable biological and agricultural qualities - crop time is short, return on investment is fast and the fruit is accepted well on the market. Berries can be grown in the open fields as well as in greenhouses.

All berry fruits, and particularly blueberries and strawberries, grow well on acid to neutral soil or substrate. Particular attention should be paid to the fertilization, since it usually leads to alkalization of the soil or the substrate. It is not unusual to have berries planted on soil with inappropriate acidity levels, due to the lack of suitable arable land or ignoring this specific soil requirement for the crop.

## Growing strawberries

Strawberries love moisture and consume lots of water, particularly in the period of growth. It is important to monitor the soil moisture before and after planting the strawberries, during the flourishing period, as well as during the shaping and ripening of the fruit.

The first irrigation of strawberries, when they are grown on soil, is made using 50-60 lt of water per sq.m, so the soil can be moisturized well. Until the plant gets growing, it should be irrigated daily (unless it is raining), using 4-6 lt of water per sq.m.

After the plant gets growing, it should be irrigated every 2-3 days, depending on the season. The daily consumption of water for the strawberry plants is 1 to 6.5 lt/sq.m, depending on the growth phase. This consumption is lowest at the beginning and end of the vegetation period and highest during the flourishing, the ripening of the fruit and the preparation of the fruit buds for the next season. Strawberries require soil PH of 5.5 to 6.5.

## Growing raspberries

Raspberries require ample and regular irrigation, particularly in the periods of growing and flourishing of the bushes, and when fruit production starts. During spring time the plant requires 0.5-1 lt of water per bush, and afterwards, as the soil gets warmer and the plant grows bigger, it requires up to 2-3 lt of water per bush. When the plant is in the fruit production phase, it is particularly important to ensure it is precisely irrigated: excess irrigation will lead to sour fruit with low preservation time, while insufficient irrigation will lead to small-sized fruit, fungal infections, etc which lowers the crop yield.

Raspberries are very vulnerable to the acidity of the soil and sensitive to salinization. They prefer slightly acidic to neutral soil with PH 5.6-7. When PH is too high, raspberries start lacking microelements and issues with plant nutrition occur.





## Growing blueberries

Blueberries grow well in light, acidic and well-drained turf soil with high humus content. The root system of the blueberry bushes stays in the top layer of the soil, at 30-40 cm depth. Moisture fluctuations during the period of growth of this plant always have negative consequences. Blueberry plants require stable irrigation, hence it is recommended to use drip irrigation and irrigation monitoring.

The crop is very sensitive towards non-balanced fertilization hence it is recommended to fertilize it only after soil and leaf analysis. Blueberries do not like chlorine and sodium, therefore farmers should ensure that those elements do not exist in the water and fertilizers used for them. Precision fertigation for this plant, with good control on the EC and PH and a well-balanced fertilization recipe, will positively affect the crop yield.

### By using ONDO's solutions for precision irrigation and fertigation, berry farmers will:

- ✓ Have the flexibility of **growing berries in any region** - whether it is dry or having ample rainfall;
- ✓ **Precisely irrigate the plants in line with their phase of growth**, at the best possible time for them;
- ✓ Achieve **high crop yield even with sandy soils** considered inappropriate due to their low water holding capacity;
- ✓ Enable **efficient nutrients absorption** by the plants, by fertilizing them just when the soil moisture levels are most appropriate;
- ✓ Be able to **increase their crop yield with up to 3 times**, regardless of the rainfall received;

# ONDO's Advantages



## An all-in-one solution that integrates with existing farming infrastructure

ONDO is based on a single integrated controller responsible for the irrigation, fertigation and climate control in a farm. It can integrate with any infrastructure already installed on the farm.



## Easy to use

Unlike most of the competitive solutions ONDO has an intuitive interface that any farmer can instantly use.



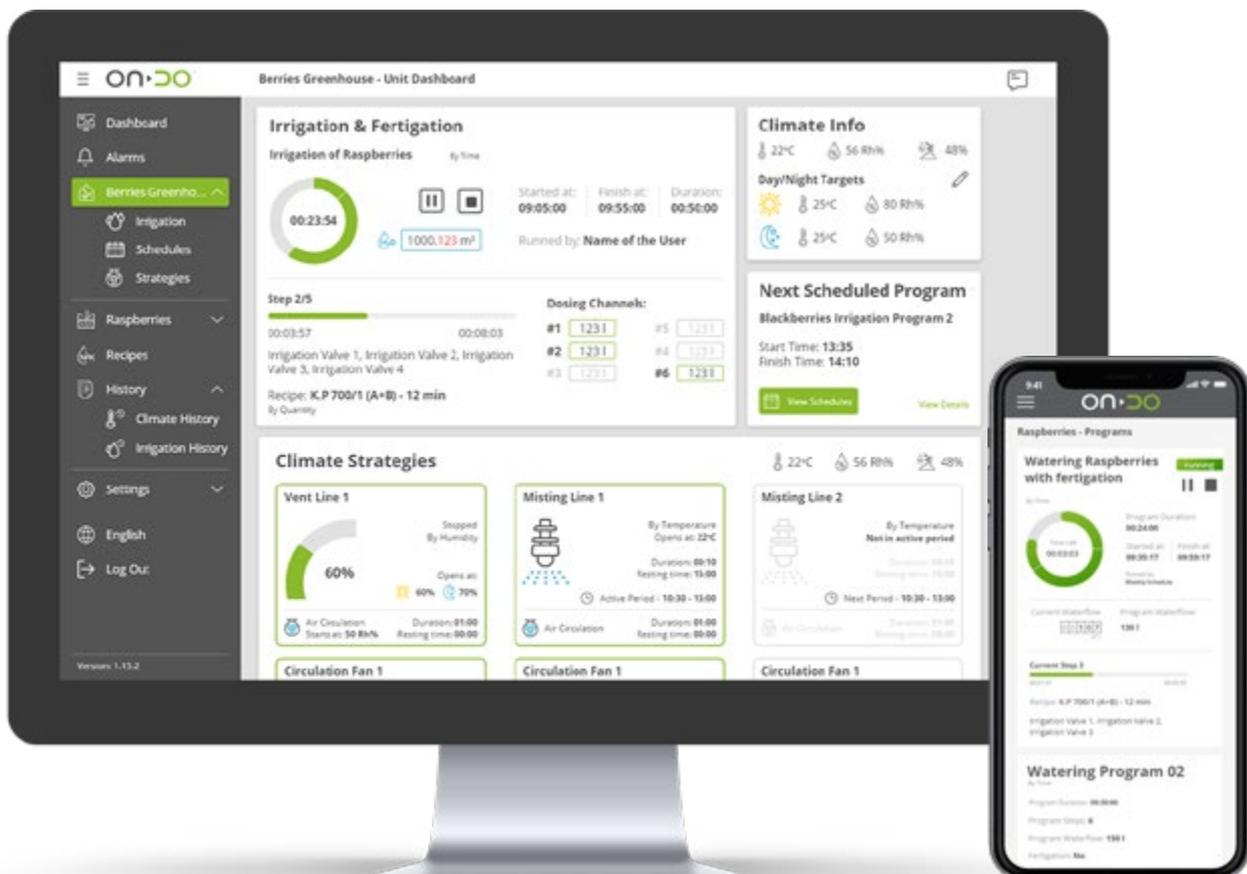
## Competitive price

ONDO business model based on low upfront fee and annual subscriptions allows even small and mid-sized farmers to automate their farms and receive high-quality support plus equipment warranty throughout their subscription period.



## Excellent 24/7 support

Reliable support and guaranteed response times in emergency situations. Easy and fast remote updates of the software.



# Results achieved by ONDO Customers

**Berry farm Otbrani precisely controls the irrigation and fertigation and saves 30% in water resources and 20% in fertilizers with ONDO**



**30%**  
less water



**20%**  
less fertilizers



**20%**  
more crop yield



**3 times**  
faster reactions  
to failures



**8 months**  
ROI

## About Otbrani

The berry farm Otbrani in Popovo, Bulgaria owns 90 ha of berry farming fields - both open fields and tunnels. Founded 20 years ago with just 1 ha of strawberries, the farm is now a major berry producer, selling more than 6 types of berry fruits in big supermarket chains across Europe.

The owner of Otbrani turned to ONDO to find a solution for precise and adaptive irrigation and fertigation that would ensure sustainable yield with optimal water and fertilizer resources and notify instantly in case of irrigation issues on the vast farming land.

“

Even though we've been using ONDO for a fairly short time, every day we become more and more convinced that we've made the right choice.

With ONDO everything happens in a very easy and fast manner, we save water resources and expenses, which is extremely important for us. ”

**Nayden Petrov,**  
Owner of Otbrani farm

## Awesome results within the very first year

Otbrani team is now managing all farm processes in an easier and faster manner, via their mobile devices, even before they have reached the farm.

Thanks to ONDO precision irrigation and fertigation system, the fruit grown receives just the right amounts of water and nutrients. When plants have their precise needs taken care of, they give back, and the farm registered a substantial increase in their crop yield.

ONDO system takes care to notify the farm technicians in case of irrigation issues and the time for reaction has considerably decreased.

[www.ondo.io](http://www.ondo.io)



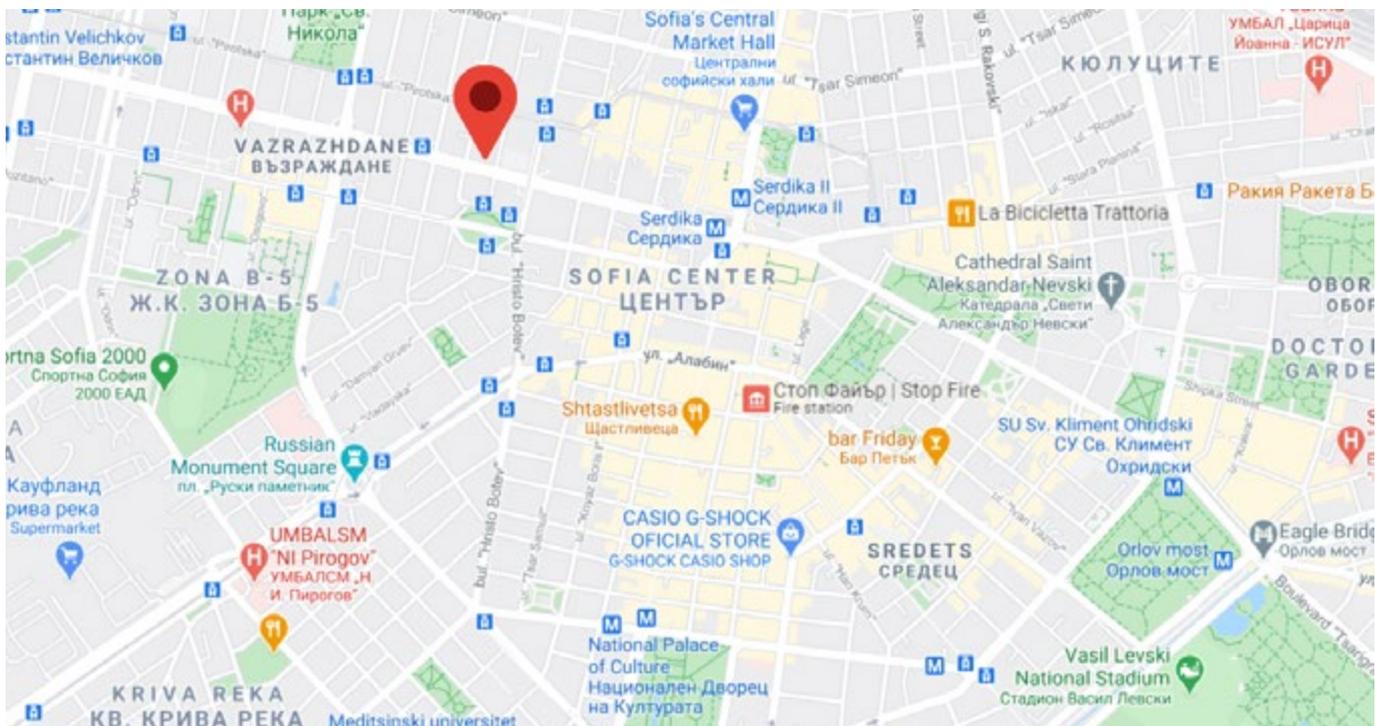
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