Organic farming on the Isles of Scilly swarm grower profile

Jonathan Smith from Scilly Organics explains how he manages his soil and water to get the best out of his crops on his 5 acre small holding in Middle Town, St Martin's, Isles of Scilly.



He follows a four year rotation in his fields and polytunnel and manages to successfully grow a wide variety of crops, including potatoes, squash, courgettes (which are double cropping in the rotation), onions, lettuce, various salad crops (tomatoes, cucumbers), peas and beans.

Having had to start from scratch and transform his 20 small fields (0.25 acre average size) from bracken and bramble scrub (see below), Jonathan mowed off existing vegetation, cultivated, and added seaweed before cultivating the crops.





You need to make sure you roll the soil after any cultivation and continually add plenty of organic matter."

"The soil is very sandy," he goes on to explain, "so I use seaweed, compost and green manures to build in fertility and organic matter."



"Most of the seaweed goes on November to December; I haul it off the beach and put it on fresh. I aim for about 6 to 12 inches thickness, it soon rots down - you are looking at 8 to 10 weeks for it to rot. I rotavate it in a couple of times and away I go." He explains that he has found that seaweed breaks down more quickly when a mixture of species is used.

"With no irrigation and relying almost totally on rainfall, you need to start planting really early" he continues. "The windows for cultivating and establishing seeds in this kind of environment are key. One advantage of the micro-climate here is that you can start planting and sowing from mid-January onwards."



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Carrots go in before winter brassicas. They are sown by mid-March to guarantee there is moisture around.



Early potatoes start to go in mid to late January, in to what was green manure ground the previous year. "If you get crops in early they can start to get their roots down. I aim to dig the first lot of spuds the first week of May."



Onions are also put in early to maximise on the conditions. "It's a moisture thing with onions - it's very important to get them started early, and get them going with good moisture."

Jonathan sells produce on St Martin's at his roadside stall, to a cafe and restaurant on St Agnes, has a weekly box scheme on St Mary's, and supplies a main-land box scheme with early spuds.

It is a testament to the quality of the soil through his soil management that he is able to grow crops such as brassicas (which favour a neutral pH). Adapting the crops to the environmental conditions, lettuces are planted in patches of soil with the best fertility.



Plants such as fennel and anything from the beet family (with long tap roots) do extremely well. *"It is very much about playing to your strengths here."*

A range of green manures are critically important to the rotation, ensuring that soil fertility levels are maintained. These include white clover (which has naturalised), mustard and phaecelia, crimson / red clover, and sweet clover.





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Red clover is typically kept in the ground through the year with seaweed incorporated in the autumn and turned in together.



Strawberries are planted after seaweed and green manures have been worked in, and white clover is sown down pathways (as can be seen below).



At the end of the season for annual crops, the clover spreads out and can then be worked in to the soil. Biodegradable plastic is used to help with water retention and weed control.

If you would like to learn more about the topics ocovered in this case study, or about anything relating to agricultural resource management visit <u>www.swarmhub.co.uk</u>.





Jonathan applied a thick layer of seaweed on the ground before putting the polytunnel up and maintains fertility annually with compost. Inside, he uses a system of drip lines as part of maximising on water availability. Guttering runs down the sides of the polytunnel to catch the rainwater (see picture). Water is fed in to a tank and pumped from it in to a header tank using a 5hp petrol water tank and a layflat hose.

Guttering was secured to the polytunnel using batons and brackets which were fixed to tunnel hoops. The guttering is run in to the tank using a stop end outlet with a leaf guard. The whole system cost very little to install and provides more than enough water for irrigation in the polytunnel.

As is typical on the islands, the soil Jonathan farms is fairly acidic, with a pH value ranging from 5.8 to 6.3. He carries out soil organic matter tests every year, testing for carbon sequestration and soil fertility. He takes the soil samples, sends them off for analysis, and compares the results with that from the previous year. This includes working out how much carbon has been gained or lost and converted in to Co_2 .



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