

Keeping a Healthy Greenhouse: Working With Soil Blocks

by Edge Fuentes, for Calypso Farm & Ecology Center

Editor's Note: as the summer cools down into our rainy season, farmers and gardeners (those who haven't been flooded out!) are already preparing for the next growing season: seed saving, variety selection, and always, thinking about how to take lessons from this year's growing season and apply it to the next.

There is one commonality that all gardeners and farmers share while growing the first starts of the season. I'm talking about keeping those plants happy and healthy while they are in the greenhouse anxiously waiting to be released into the garden to flourish. In the Interior of Alaska especially, a greenhouse is an essential tool for giving young plants a jump on the short growing season. Whenever a plant is going to be transplanted from the greenhouse to the field it is always beneficial to limit the stress load on that plant's life up to the point of transplanting. To gain an understanding of how vulnerable a plant truly is in its early stages one must take a keener look at why these limitations exist.

Consider the first stage of growth that a seed undergoes, when most of the energy that is stored in the seed is concentrated on sending out a root. Once the root improves and builds on its structure through a series of more fibrous roots, it will then be prepared to start its growth above the soil. At this stage in the plant's life it becomes quite dependent on the structure or container type in which it is growing. When growing starter plants in plastic containers, there is a tendency for the roots to outgrow their container if they are left in it for too long. Once a root system begins to spiral or grow in a lateral direction instead of a vertical one, its quality of growth is compromised. If a plant is left too long in its original container, with enough time the roots will not be able to circulate nutrients properly and the plant will suffer severely and possibly die.

So what can be done to improve growing conditions for greenhouse plants? Well, with a little fall research and some



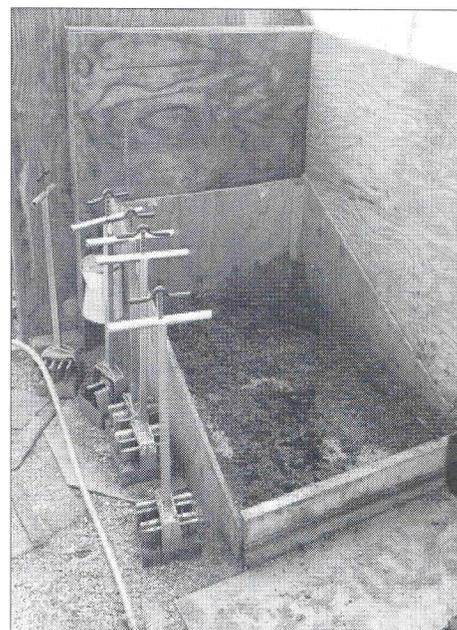
Above: making soil blocks at Calypso Farm, April 20, 2008. The trays at right have seedlings sprouting in already-prepared soil blocks.

Right: setup for soil blocks, with a potting soil mixing bin and soil blockers. Photos courtesy Calypso Farm.

winter cataloging, next spring could bring new and improved growing methods.

At Calypso Farm and Ecology Center, we have been experimenting this season with an alternative to using plastic containers. Commonly used in Europe by small-scale farmers, soil blocks create less restrictive growing parameters for young plants. A soil block is merely a cube of soil that is held together by nothing more than

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soil and water. Keep in mind, the mixture of soil to water will vary with different potting soil mixes. Once the potting soil mix and water is stirred to a desired consistency (some water should spill out of the hand when the soil is squeezed) a soil blocker is then used like a cookie cutter to create the desired size of cube. The cubes (which can be in groups of four, twelve, or twenty) are then pressed out into wooden frames that are constructed to fit an even amount of blocks. A soil blocker with 1.3" block size can fit eighty blocks on one tray.

The advantages of using soil blocks have already presented themselves on a number of occasions in just the first season of use at the farm. First, the amount of water that each seed has available to germinate is often a bit more than one would put into the soil of a plastic container simply due to the soil blocks' structural needs. However, the blocks also remain moist for a prolonged time due to the lack of contact with a conductive surface such as black plastic. Maintaining this constant level of moisture is essential to secure successful germination as well as ensuring a gradual rate of growth with little impediment.

Second, the blocks are each separated by a thin wall of air space that regulates the root growth of the plant. The moment a root leaves the soil block and attempts to continue its growth through that wall of air, there is an immediate reaction by the root system to drastically decrease its rate of growth. This action of stalling the root growth instead of blocking the growth is exponentially beneficial to the plant. Yes, if given enough time the root system will invade the neighboring soil blocks. Yet, if the plants are transplanted in a timely manner there should not be too much mixing or competing of roots between soil blocks. Most important, the plants are going to be transplanted into the garden with minimal stress to their root system and will be able to concentrate on gathering nutrients for growth instead of managing an intense destructive shock to their fragile systems.

Based on our experience this season, we felt that the soil blocking system was very applicable to the small-scale farm. There is a slight learning curve, which may require some patience, but remember...it *is* farming. Be sure to check back in with us next year at the farm or visit us at www.calypsofarm.org. If you are interested in ordering soil blocking equipment, Johnny's Selected Seeds and Peaceful Valley Farm and Garden Supply carry the blockers and additional attachments. Good luck on your garden improvements!

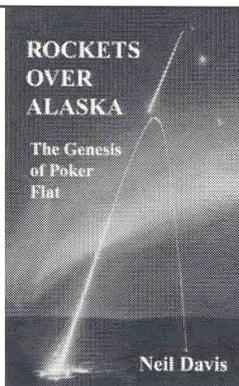


Rockets Over Alaska: the Genesis of Poker Flat

by Neil Davis

The 1968 crash of a B-52 carrying hydrogen bombs in Greenland led, in part, to the development of Poker Flat Research Range, the Western Hemisphere's primary high-latitude site for launching scientific rockets.

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Seeding the soil blocks, April 2008. Photo courtesy Calypso Farm.

Recipes for the Non-Summer

by Mary Wagner

Believe it or not, our non-summer is nearly over. Hopefully your garden has provided a bountiful supply of vegetables in spite of the weather. I also hope your secret berry picking spot provided enough raspberries and blueberries to last through the winter. I happen to be a very skilled producer of zucchini, green tomatoes, and basil. If it were not for the moose, I would also have a prolific amount of cabbage to deal with. Because of my special gardening skills with these particular vegetables, I have had to find recipes to use them up.

Pesto

Pesto is very simple to make if you have a food processor. I make several batches every year. Each batch gets poured into a gallon zipper freezer bag. Let the pesto spread out in the bag, it should not be more than one-half inch thick. If you lay the bag flat in the freezer, it is easy to break off a chunk of frozen pesto. I do not use pine nuts in my pesto because they are outrageously pricey. Besides using pesto on pasta, it can also be used as a pizza sauce, an enhancement to jarred pasta sauce, mixed with sour cream or mayo as a dip, or spread on French bread with parmesan cheese and broiled.

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