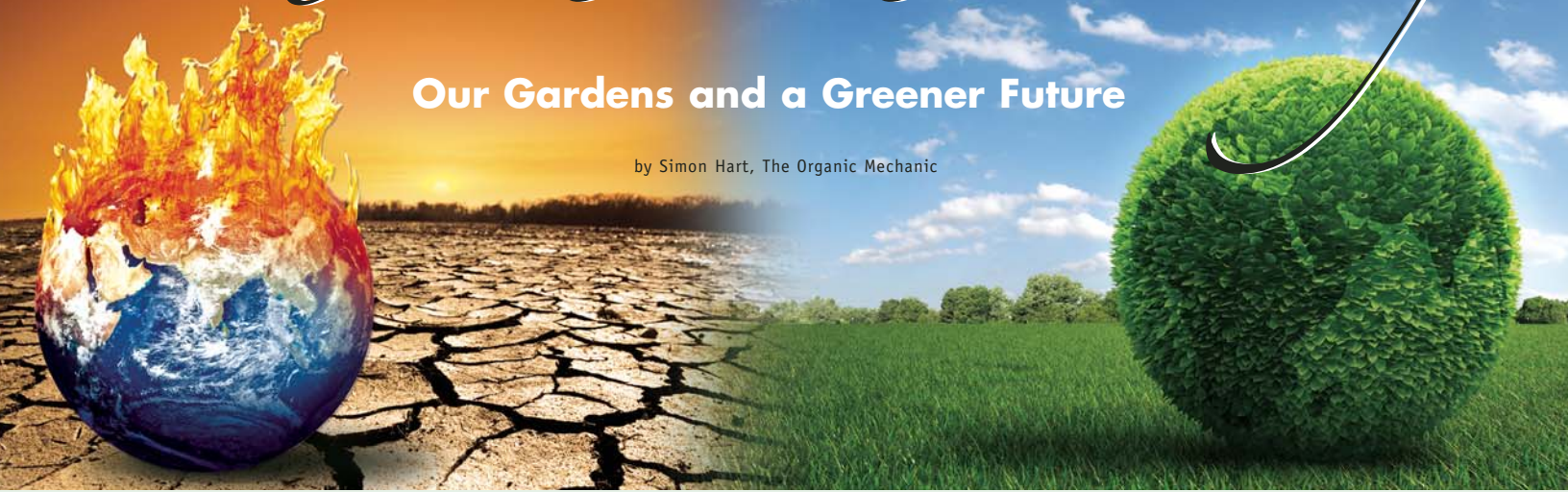


Sustainability

Our Gardens and a Greener Future

by Simon Hart, The Organic Mechanic



Sustainability. The concept itself is inspirational; and yet to achieve it is a huge challenge. We expect humans and the world we live in to continue indefinitely without external inputs, but can this be possible? In the end it has to be possible. We must pay attention to the reality that our world is a closed system and our consumption is limited by what the natural world can offer.

The concept of an ecological footprint, or our overall impact on the planet, has existed for decades. How are we doing? Currently each person needs on average 2.7 hectares for our current consumption, based on a world population of 6.9 billion people. And this assumes that other organisms need no resources! The problem is we only have 2.1 hectares per person. In addition, our population is expected to reach 9 billion by the middle of this century; and many developing countries are now following the western model of vast over-consumption. The good thing is we can make changes, and one of the most important is using our gardens to help increase sustainability. Our capacity to endure will require a change in the way we interact with the environment.

Even if you are skeptical that changes in our climate are the result of our own actions, I am sure that something has happened in the last few years to make you think that perhaps something is changing. It might be an unusual local flood or drought, changes in seasonal weather patterns, or any number of things. Without a doubt, the level of carbon dioxide in our atmosphere is rising and this is a major part of the sustainability issue. There are many people talking about such things as carbon trading, carbon sequestration, and carbon sink to tackle carbon dioxide. But how can our garden spaces tie into such a large and confusing issue?



There are choices we can make in life to become more sustainable. Top of mind awareness on this topic is becoming more important to more and more people. I encourage you to work on your very own carbon sink. The best thing we can do is focus on the fact that plants and soils also absorb a large quantity of carbon in a healthy environment. In fact, when you look at any plant, it may surprise you to know it is essentially 50% carbon. Rich, healthy topsoil is also loaded with carbon. It is becoming clear that our gardens are one of the best places for individuals to:

- Sink carbon dioxide
- Mitigate habitat destruction
- Reduce global transport
- Conserve water resources
- Grow more local food
- Improve water quality and soil health
- And no less important, a rewarding and relaxing activity. That is human ingenuity at its finest.

A sustainable garden is about efficiency. Efficient uses of resources such as water, energy and fertilizers are all important issues. But the most important efficiency in a sustainable garden should be the amount of time a gardener has to spend maintaining the space. The more time left for relaxing and enjoying it, the better. All the suggestions below blend together. In the end they will reduce the amount of effort required while increasing productivity, building top soil and boosting the overall health of your garden. In the end they should give you more of an opportunity to think about where to set up the hammock and enjoy your backyard oasis.

At the Beginning

The first step is composting. Compost is a great way to recycle nutrients and divert up to 30% of material from our garbage bins enroute to the landfill. It is wonderful mulch, so it helps replenish the soil, while increasing soil humidity and biology. To make composting more effective and more interesting, consider vermicomposting, which is composting with the use of worms- very effective.

Don't throw away your lawn clippings and leaves in the fall. They provide valuable organic material that can be used as compost or mulch, and a little investigation will show you ways to tidy it up and keep it out of the way until you need it. Another great mulch, especially for the paths in your veggie patch, is straw.

Before Planting

Consider such questions as: What is the soil like? Does the area get a lot of sun? Does the plant need a lot of water? These and other issues considered in advance will let you put the right plants in the right area of your garden and group plants with similar needs together. Remember you are not trying to fight your garden; choosing the right plants will mean less time spent ensuring that plants survive.

Choose Wisely

For many, the use of native plants is the key to get a more resilient landscape but be aware of the changes happening in our weather. Some traditional plant choices are failing because of winter climactic conditions while others are suffering under oppressive summer heat. In fact, changes to the plant hardiness zoning maps, which give gardeners a guide as to what to plant in their area, are being contemplated. Become in-tune, and observing changes, will be the best way to build regional knowledge. Pick a diverse range of plants and create a multi-story garden by using trees, shrubs, flowers and groundcover. Scientists at Brown University have shown that higher biodiversity produces more organic matter and more soil carbon than less diverse landscapes, even when they get the same amount of water, sun, and resources.

Water, Water Everywhere

Water use is another key issue. Rain barrels are a great start, but 205 liters (55 gallons) doesn't go very far in the middle of summer. Buried cisterns would hold much more water but not many gardeners are going to go through the trouble to provide this source of stored water. Building rich, healthy, mulch covered top soil is the best water saving option available to home gardeners. Healthy topsoil acts as a sponge and will soak in vast amounts of water, storing it for drier weather.

Perhaps the most negative action related to water is the creation of impervious surface in your garden. In England, they now realize the harmful effect of paving over front gardens for extra parking. It can cripple the established storm water runoff system creating localized flooding. Remember that fact whenever planning hardscapes in your yard.

Not All Soil is the Same

Research at Oregon State University shows that 80% of plant problems are related to poor soils. How do you build healthy top soil? After home-made compost, look to build a layer of organic matter with it. Need more nutrients? Be aware that organic products are the only fertilizers that can be considered sustainable. They are generally waste products or sustainably harvested, and will provide slow release nutrition for plant and ensure healthy microbiology in your soil.

Fertilizers & Pesticides

Chemical fertilizers have no place in the future of our gardens. In most cases these fertilizers are produced from and using fossil fuels. These products only bestow minerals focused on plants and disregard the rest of the complex soil food web surrounding and nurturing those plants. They can actually damage the ecosystem health, promoting increased stress, disease and insect attack in your gardens. Avoid the use of pesticides at all cost, even the natural choices. In a biodiverse garden there should be a balance of creatures. An outbreak generally shows poor plant health or a lack of diversity.

Green, Green Grass of Home

We are all quite fond of our lawns, but so much of our gardening time is spent mowing, edging, watering and weeding these unnatural monocrops. Consider shrinking the size of your lawn as much as possible. Any of the

benefits that people attribute to lawns such as storm water control or oxygen release are exceeded in diverse raised beds. And the time you spend listening to your lawnmower? The average gas-powered mower releases as much pollution in one hour as a small car does in 40 hours. Consider buying an electric mower for your next purchase to reduce your carbon footprint. The best choice — hand powered grass cutter such as a reel mower releases no emissions, and if the blades are kept sharp, they give a better cut and require little more effort. Try to let grass grow a little higher, as this increases the efficacy of irrigation. Top dress your lawn with your homemade compost or worm castings. This will help thatch decompose more quickly, decrease watering needs, and along with over-seeding, will virtually eliminate weeds from your lawn. Bear in mind, most problems with lawns relate to micronutrient deficiencies not nitrogen shortage, so try applying some kelp meal or a liquid kelp product once a season in the spring to help your lawn through the summer.

Return of the Veggie Patch

There was a time when virtually every backyard was full of vegetables. For many, this was how you fed your families. This tradition has existed since the end of nomadic life over 10,000 years ago. Until recently, this aspect has been buried under mountains of annual flowers, chemical treatments and oversized lawns. These modern landscapes may look nice but they provide very little benefit.

Growing more of our own food is the essence of local food production and a sincere reconnection with our history and the natural cycles around us. Don't be put off by the traditional rows of plants found in pictures of vegetable gardens. Be innovative. Why not plant vegetables between some perennial flowers and work in some semi dwarf grafted fruit trees as a canopy. The new food garden will not look like a vegetable patch at all but a dynamic, colourful and tasty display of gardening creativity.

Nature's Balance

Make sure that your garden has a broad range of plants and inviting habitat to encourage biodiversity. The more varied your plant material, the more opportunity for beneficial wildlife to occupy your garden. The more obliging wildlife in your garden, the fewer pest problems you will have. In any system, plants

will tolerate a certain amount of pest pressure. After all, they have gotten used to it over the last 250 million years. It's when a system is unhealthy that the balance shifts and outbreaks occur. Building habitat is one of the most important ways to create a sustainable space in your garden. Water features, mulch, wood and rocks placed in the landscape, bird feeders and birdhouses will all make a difference and provide for creatures in your garden.

Our gardens can be a beautiful place to escape from the hectic pace of our lives. They can also showcase our appreciation of the natural world and our commitment to the future. When you are out in the garden this season, strive for something more, embrace new and old techniques alike; and then sit back and enjoy your efforts. Pat yourself on the back for your individual contribution in helping our planet. Forward thinking ideas should have a place in our gardens, building on humankind's ingenuity and ability to live sustainably into a greener future. 🍃

