



## 2021 GID – Sustainable Agriculture Practices Overview

Sustainable Agriculture refers to agriculture whose methods do not deplete soil, water, air, wildlife, or human community resources<sup>1</sup>. Keep Growing Detroit supports farming practices that strive for these ideals, and is in a continuous process of learning and improving in partnership with our growers. Grown in Detroit growers pledge to abide by and uplift Sustainable Agriculture growing practices to protect themselves, their neighbors, our local environment, and our loyal customers. Below you will find an overview of **BEST PRACTICES** that GID growers pledge to embrace by signing the Grower Agreement. This list is a constant work in progress and we welcome growers contributing and expanding this list.

**HEALTHY SOILS:** If we take care of our soils, they will take care of our plants! . Soil is composed of mineral elements and organic matter (made up of formerly living materials). Healthy soil is also vibrant and teeming with microbial life, which play many beneficial roles for plant health in agricultural systems.

- Safe soil begins with a thorough soil test. Contamination from heavy metals and other chemical elements are a concern. In particular, lead levels must be under 25ppm-extracted lead to sell through GID.
- Organic matter: levels over 5% are ideal for growing. Application of finished compost is the easiest way to boost organic matter.
- Crop rotation is the practices of not growing the same plant families in the same areas in consecutive seasons. Rotating plant families avoids depleting specific nutrients and help limit pest and disease pressures. Certain crops like legumes can actually add nutrients to the soil, limiting the need for additional inputs.
- Cover cropping, or growing non-food crops that protect the soil is extremely helpful for protecting soil microbial life, conserving water, and limiting erosion, particularly over the winter.
- Tilling can damaging soil microbial activity as well as destroy soil texture. While beneficial under certain circumstance, deep tilling should be limited and never under wet conditions to avoid compaction.

**PEST PREVENTION + MANAGEMENT:** Integrated pest management (IPM) relies to the greatest possible extent on biological rather than chemical measures, and emphasizes the prevention of pest problems with crop rotation; the reintroduction of natural, disease-fighting microbes into plants/soil, and the release of beneficial organisms that prey on the pests... Chemical pesticides are only used as a last resort.<sup>2</sup>

ALLOWED SUBSTANCES:

- The Organic Materials Research Institute, or OMRI publishes a thorough list of approved Biological and microbial products (see <http://www.cngfarming.org/alprosubstances> for a partial list).
- Diatomaceous earth
- Minerals such as elemental sulfur, bicarbonate, potassium or sodium, kaolin clay
- Pheromones, pheromone traps, and sticky traps
- Plant-derived substances such as Neem and Pyrethrum
- Soaps - non-detergent only for food crops only
- Herbal/plant based treatments i.e. cayenne, garlic powder, etc

**FERTILITY MANAGEMENT:** A major area of concern with conventional or industrial agriculture is the application of synthetic fertilizers (often made from petroleum products). Sustainable Agriculture offers a myriad of fertility management options, all beginning with maintaining healthy soil. In addition to the above soil practices, growers may utilize certain amendments to sustain proper soil nutrient and mineral levels.

ALLOWED SUBSTANCES:

- Animal and plant products such as bone, blood, and feather meal, alfalfa and soybean meal, fish emulsion, molasses, neem, etc.
- Compost and compost tea

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<sup>1</sup> Community Alliance with Family Farmers FAQ, <http://www.caff.org/about/faqs/>

<sup>2</sup> Union of Concerned Scientists, [http://www.ucsusa.org/food\\_and\\_agriculture/solutions/advance-sustainable-agriculture/sustainable-agriculture.html#.WMhumYXcP5g](http://www.ucsusa.org/food_and_agriculture/solutions/advance-sustainable-agriculture/sustainable-agriculture.html#.WMhumYXcP5g)



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- Cover crops such as clover, alfalfa, buckwheat, etc.
- Rock minerals such as Rock phosphates, Mined potassium sulfate, Greensand, etc.

### PROHIBITED SUBSTANCES:

- Ash from manure burning
- Chemically-processed minerals
- Compost with sewage sludge or synthetic compost starter
- Synthetic fertilizers such as Miracle Grow or similar products

**WEED MANAGEMENT:** Weeds, or undesirable plants, are a basic reality of diverse ecosystems. A certain amount of weeds are tolerable, but excessive growth can rob crops of nutrients, light, water, and can potentially augment pest and disease pressures. Sustainable Agriculture prohibits the application of synthetic or chemical weed killers, which are catastrophic for the healthy biodiversity of growing environments. Furthermore, they are poisonous to people (and other life forms) that come into contact with them through exposure or ingestion as residue on edible crops. Fortunately there are simple and cost-effective options for managing weed pressures

- Mulches in the form of organic material limit light to weeds while maintaining soil moisture, requiring less watering
- Hand and light mechanical cultivation is generally sufficient and also critical for interacting with the growing plants
- ‘Sterile’ seed beds can be created by watering soil before planting. This process germinates dormant weed seeds that can be eliminated before sowing crops.

**CLEAN WATER:** Water is an often overlooked but critical component of healthy, sustainable systems.

- Rainwater can be a sustainable and low-impact source of water but ONLY when used to limit health risks.
- Collection systems designed for irrigation of edible crops must use a ‘first-flush’ diverter. This strategy allows the initial runoff to flush the roof and gutters of potential contamination from debris or other biological hazards.
- Storage tanks require additional strategies to maintain cleanliness.
- Collected rainwater can not be used for washing produce for human consumption.
- See <https://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/54265/em9101.pdf> for more information including how to build a system that incorporates food safety.

**SUPPORTING BIODIVERSITY:** At the heart of Sustainable Agriculture is the concept that ecosystems are intelligent, self-sustaining, and thrive through biodiversity of all life. We can assist in managing ecosystems by working *with* and not *against* natural processes. Many of the above practices support biodiversity; additional steps can be taken to increase plant and animal life working in symbiosis with agricultural systems.

- Flowering and native perennials attracts beneficial insects that assist with pollination and combating pests pressures.

THIS DOCUMENT IS A WORK IN PROGRESS! GROWN IN DETROIT STAFF WELCOMES THE DISCUSSION AND FEEDBACK OF ALL GID GROWERS AT WORKGROUP MEETINGS AND THROUGH OTHER DISCUSSIONS. BE IN TOUCH WITH IMANI AND MOLLY WITH ANY ADDITIONAL THOUGHTS AND FEEDBACK!