

# Springtime and Gardening - Terms and Concerns

*"Gardening is a way of showing that you believe in tomorrow."*

Ah spring time; that time of promise and hope after a long winter chill. Seeds are the foundation of all gardening, they contain everything needed within their tiny shells to create beautiful and sustaining growth.

My garden will be much smaller this year as most of my time is being diverted to getting my house on the market. But I still have the "bug" so I will comment on some meanings, definitions and concerns for those of you that are interested.

*"So many seeds -- so little time."*



## Heirloom or Heritage Seed

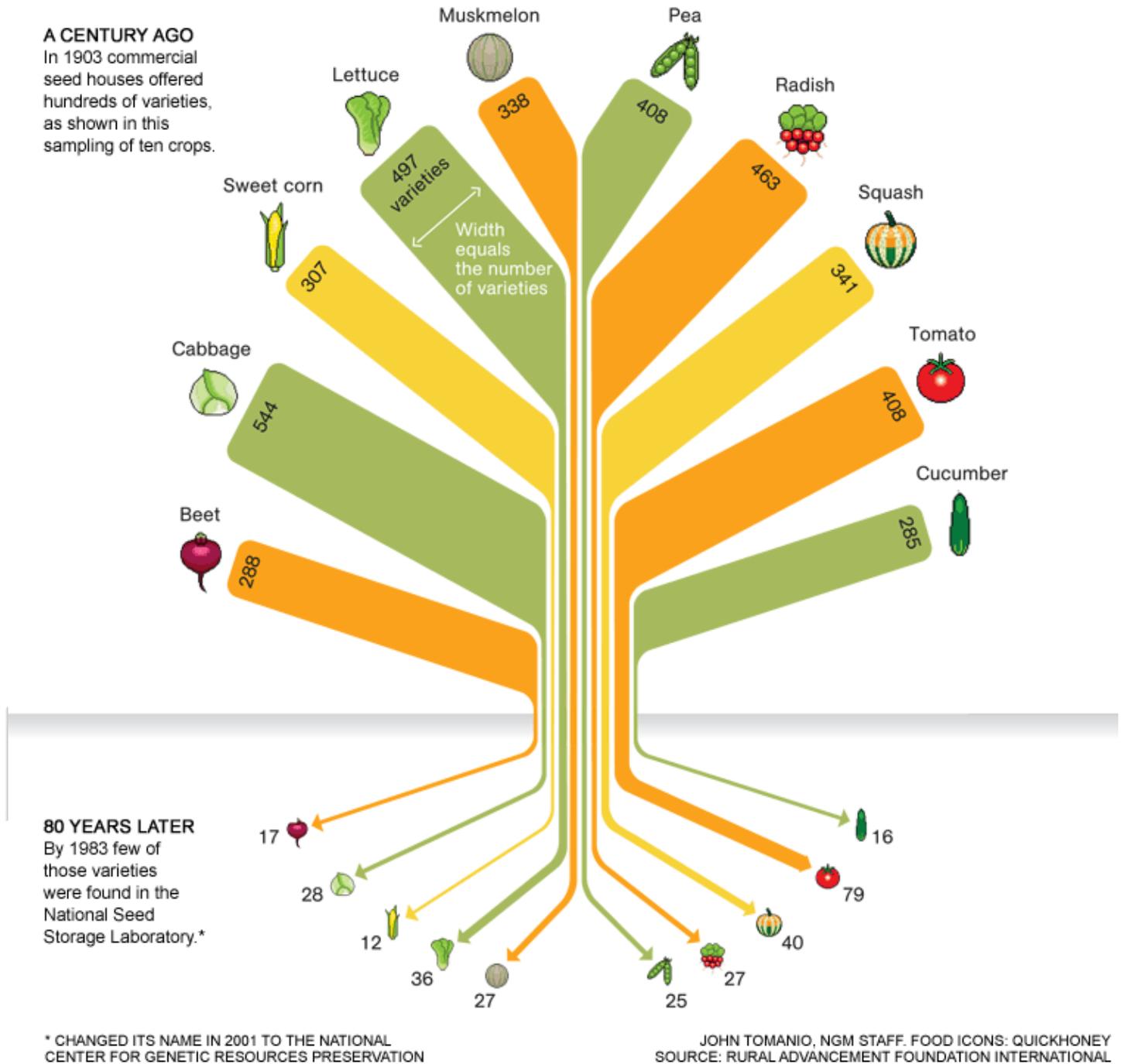
Heirloom or Heritage Seed is a type of non-hybrid seed. The terms heirloom or heritage do not have a legal definition nor is there general agreement on the use of the terms when describing seeds or plants. Generally these seed varieties are considered as having been grown prior to WWII or 1950. It often indicates that the seed has been valued by a family, tenderly and carefully preserved, and handed along from generation to generation. The variety of seed has had a long history, rather than being a newer development in the commercial seed industry.

**All heirlooms are open pollinated (OP) and non-hybrid, but not all OPs are heirlooms.** Some gardeners insist that to qualify as an heirloom, a cultivar must be at least 100 years old. Others say 50 years, some say 25. There is no agreement on the period of time an heirloom must have existed to qualify for the name.



**Heirloom Cultivars**

Everyone agrees that all heirloom cultivars are, by definition, open pollinated. That means heirloom seeds will produce plants that are identical to the parent plants. Traditionally, what is called an heirloom is a cultivar that has been handed down through many generations, often within one family or in a relatively small geographic area.



**Introduction of Hybrids**

Hybrids came about around 1951. Hybrids were first introduced by the seed trade on a large scale to home gardeners in the 1950's but did not catch on commercially in agriculture until the 1970s.

In the past, no reputable seed producer would ever release a new variety in an unstable state. It would be bred and selected for years until it would come true-to-type from saved seed. However, starting around WW II, the definition of the term has changed in its implication and application. Most seed companies are now motivated by profit and so they intentionally release unstable, hybrids whose exact parentage are guarded trade secrets. Since these seeds are not suitable for saving, the farmer or gardener must buy new seeds each season.

## Hybrid

Hybrid seeds are the first generation offspring of two distant and distinct parental lines of the same species. Hybrid seed is also known as "high response" seed. These seeds require fertilizers, herbicides, pesticides and lots of water to achieve their high yields. Seeds taken from a hybrid may either be sterile or more commonly fail to breed "true". Seeds saved from a hybrid plant will not grow "true" in that the plants will not be the same as the parent plant. Instead, they may resemble either one of the hybrid plant's parents, or an even earlier trait.

Since these seeds do not produce "like" plants or may be sterile they are NOT good seed savers. They also need to be purchased each season to produce the desired plant and therefore should be avoided by the self-sustaining gardener.

The screenshot shows the Heirloom Organics website. The header includes the logo and navigation links for Home, Seed Packs, Vegetable Seed, Fruit Seed, Legume Seed, Grain Seed, Herb Seed, and Buy Seeds Now. The main content area is titled "Non-Hybrid Seeds" and features a section titled "The Importance of Non-Hybrid Seeds". This section explains that non-hybrid or open-pollinated seeds allow gardeners to collect seeds from a crop for future planting. It also discusses nutritional integrity, stating that many vegetables today lack nutrition due to over-hybridization, and economic security and independence, noting that growing one's own food is becoming an economic necessity for many. A sidebar on the left lists "Non-Hybrid Seed Packs" with prices: Essential Pack (\$85), Urban Pack (\$85), Suburban Pack (\$99), Family Pack (\$149), Homestead Pack (\$249), and Farm Pack (\$499).

## Open Pollinated

**All heirlooms are open pollinated (OP), but not all OPs are heirlooms.** Non-Hybrid seed is often known as "open pollinated" or OP. Many excellent open pollinated cultivars have been created since the 1950s, but they are not generally considered to be heirlooms. Once a cultivar is stable meaning it breeds "true", it can be called an open pollinated cultivar.

Open-pollinated varieties are the traditional varieties that have been grown and selected for their desirable traits for millennia. They grow well without high inputs because they have been selected under organic or natural conditions.

These varieties are also considered to have better flavor, hardier and have more flexibility than hybrid varieties. Again this has not been scientifically proven. Breeders cannot manipulate complex characteristics such as flavor as easily as

they can size and shape. These seeds are dynamic, they mutate and adapt to the local ecosystem, as opposed to modern hybrids, which are static.

Commercial breeders currently lack the incentive to produce new open pollinated varieties from which farmers could save seed and replant.



### Genetically Modified Organism (GMO)

GMO is an organism whose genetic material has been altered using genetic engineering techniques. This process provides a class of legal ownership protection, often allowing corporations to own the DNA of specific organisms. Most GMO seeds have the same “seed saving” issues as hybrids, in that their offspring do not seem to carry the complete DNA of the parents or if they do they also start to magnify the “recessive” or weak genes of the parent. So to be guaranteed a crop of the parents, one must currently purchase new seeds each year. There is some research to create “self sustaining” GMO seeds but the controlling manufacturer and owners of these seeds are fighting that.



### Certified Organic

Certified Organic refers to products grown under guidelines as mandated by a third party certification organization. To become certified, growers and processors must keep very detailed records, adhere to the standards, have soil and facilities tested, keep copious records, and pay certification fees.

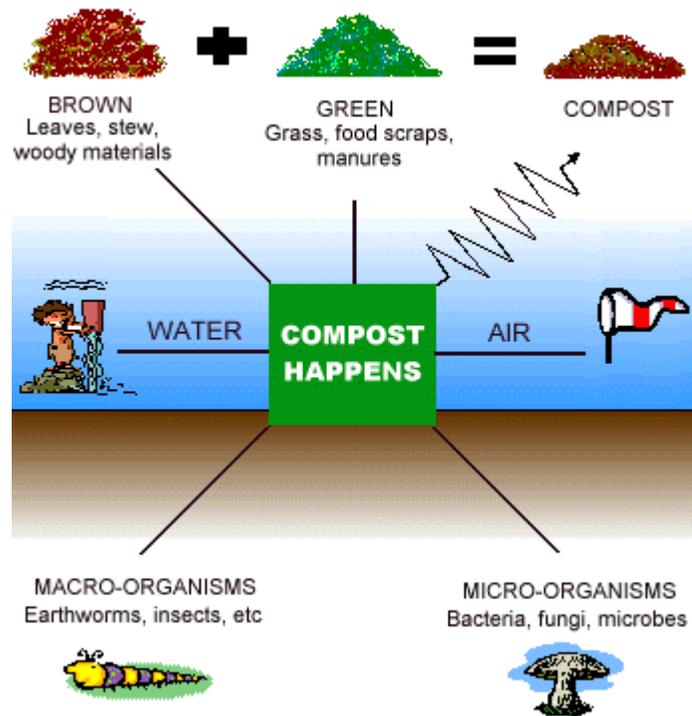
**Note:** USDA Organic are one of the weakest of *all* the countries organic guidelines.





**Self Sustainable** - Means you or your farm are able to sustain itself without outside needs. Being able to grow your own crops and produce on your farm and sell them to make enough money to pay for themselves would help you be more self sustainable. Saving seed, having animals that create manure for fertilizer, growing enough for yourself and enough to feed your animals; these are also ways of being self sustainable.

## Springtime and Gardening – Terms and Concerns - Continued



**Composting** - Recycling organic matter such as manure, newspaper, cardboard, leaves, grass clippings, vegetable scraps and more. Allowing microbes and bacteria to break it down into its simplest form turning it all into rich organic matter that you can use to mulch and fertilize your crops and plants with.



**Vermicomposting** - Composting with worms allowing the worms to eat the compost and creating worm poop called castings.



## Springtime and Gardening – Terms and Concerns - Continued

**Eco-Friendly** - Much like the Green Wise it means something or someone that is good for the environment. Aluminum Cans are Eco Friendly because they can be recycled over and over again.



**Green Wise** - Means someone or something that is good for the environment. You could say that compact florescent bulbs are green wise (until you consider the mercury).

1. **Fluffy language**  
Words or terms with no clear meaning; e.g. 'eco-friendly'

2. **Green products v. dirty company**  
Such as efficient light bulbs made in a factory which pollutes rivers

3. **Suggestive Pictures**  
Green images that indicate a (un-justified) green impact e.g. flowers blooming from exhaust

4. **Irrelevant claims**  
Emphasising one tiny green attribute when everything else is un-green

5. **Best in class?**  
Declaring you are slightly greener than the rest, even if the rest are pretty terrible

6. **Just not credible**  
'Eco friendly' cigarettes anyone? 'Greening' a dangerous product doesn't make it safe

7. **Gobbledygook**  
Jargon and information that only a scientist could check or understand

8. **Imaginary friends**  
A 'label' that looks like third party endorsement...except it's made up

9. **No proof**  
It could be right, but where's the evidence?

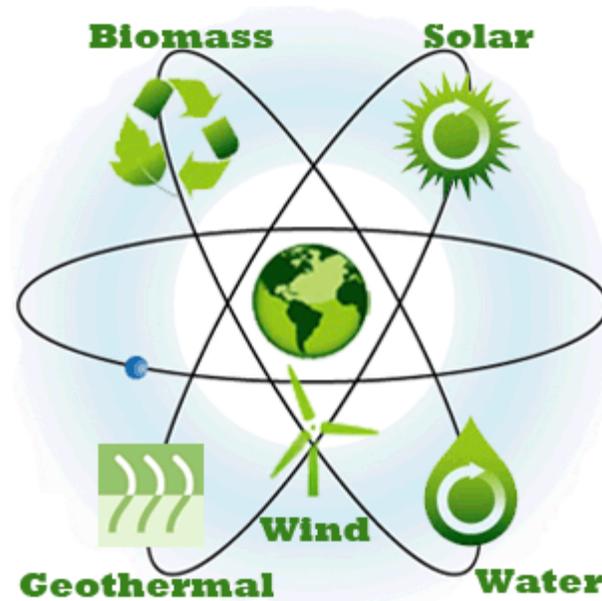


10. **Out-right lying**  
Totally fabricated claims or data

**Green Washing** – Green Wash: verb, the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service.

As the definition states, this means that something is promoted as “green” or “eco-friendly” or environmentally safe when in fact it is not. A perfect example of this is Granite for countertops and floors. The carbon footprint to harvest

granite is as high (in some cases higher) as harvesting coal via strip mining. On top of that the granite industry does not need to “reclaim” the quarry for future public use, unlike coal mines or landfills. These quarries become polluted with the minerals and metals that dissolve in the water that collects in them. Thus granite is a green washing product and not green at all.



**Green Energy** - Energy that comes from non polluting, renewable sources such as Solar Panels, Hydroelectric, geothermal or Wind power from Windmills. I personally prefer the term Renewable Energy as you can get it as long as the rivers flow, the sun rises, the earth vents its heat and the wind blows.



### **Building Forests through Agriculture**

**Agro-Forestry** - Agriculture and Forestry mixed together. It’s a term coined in the mid 1970’s. Any of the fruit or nut bearing trees can produce food crops available to people. Also growing crops in a forest like setting where the trees are grown in rows and the crops grown between the rows of trees are another form of agro-forestry.

By: Sian Choi  
Graphics Multi-Media

# Aquaculture

### What is it?

According to the FAO (Food and Agriculture Organization), aquaculture is understood to mean the farming of aquatic organisms including fish, mollusks, crustaceans, and aquatic plants.

### PROBLEM

U.N. reports that 32% of global fish stocks are overexploited or depleted and as much as 90% of large species like tuna and marlin have been fished out in the past half-century.

### EFFECTIVENESS

- Global aquacultural production increased from less than 1 million tons in 1950 to 52.5 million tons in 2008
- Today about half the seafood consumed around the world comes from farms

"Fish are the last wild food, and we're just realizing it."  
"The wild stocks are not going to keep up. Something else has to fill that gap."

"Seafood consumption will spread because we need it for health reasons."

#### Farming Seafood vs. Farming Land Animals

Animal	% of feed that's converted to protein
Carp	30%
Poultry	25%
Pigs	13%
Cattle	5%

#### Aquaculture Production - 2002 (Regions)

Region	Production (Tonnes)
South America	545,655
North America	669,682
Europe	733,550
Japan	828,763
Southeast Asia	1,918,274
India	2,978,308
China	27,767,251

http://www.theglobaleducationproject.org/earth/fisheries-and-aquaculture.php  
http://www.time.com/time/health/article/0,8599,2081796-2,00.html

**Aquaculture** is the cultivation of the natural produce of water (such as fish or shellfish, algae and other aquatic organisms) under controlled conditions instead of catching them in the wild. Aquaculture accounts for almost 50% of the world's food fish and is one of the fastest growing sources of animal protein. The term is distinguished from fishing by the idea of active human effort in maintaining or increasing the species involved, as opposed to simply taking them from the wild. Subsets of aquaculture include Mariculture (aquaculture in the ocean); Algaculture (the production of kelp/seaweed and other algae); Fish Farming (the raising of catfish and tilapia in freshwater ponds or salmon in marine ponds); and the growing of cultured pearls.



**Hydroponics** is crop production with mineral nutrient solutions instead of soil containing silt and clay. Terrestrial plants may be grown with their roots in the mineral nutrient solution only or in an inert medium, such as perlite, gravel or rockwool. A variety of techniques exist.



**Aquaponics** is the integration of aquaculture and hydroponics. An aquaculture is used to continuously generate a nutrient-rich solution to feed a hydroponic garden. Aquaponic systems can be used to replicate controlled wetland conditions that are useful for reclaiming potable water from typical household sewage, in addition to generating a continual supply of food with minimal fertilizer use. Aquaponics takes advantage of synergy between self-organizing biological systems, emphasizing the one element/many functions principle of permaculture. This synergy benefits both systems and allows each to help maintain the other. For example, an aquaponic system consisting of goldfish and watercress would require less human intervention into each system. The goldfish would benefit from the filtration carried out by the watercress, and the watercress would benefit from the nutrient-rich waste excreted by the goldfish.

*"No occupation is so delightful to me as the culture of the earth, and no culture comparable to that of the garden."*

*Thomas Jefferson*



**Notes and Concerns:**

Seeds are incredibly complex and a contentious resource within the global food community. Today we seem to be fighting to retain biodiversity and our autonomy as food producers and cultivators from the large, international corporations and governmental influences and regulations.

There is no question that open-pollinated heritage and heirloom seeds help to insure worldwide plant diversity. How much so is what is under debate.

The fact remains that plant diversity and food crop genetics are the cornerstone of worldwide food security. Today this issue has become more important than ever.



The reality of limited plant genetics is one of the reasons for the Svalbard Global Seed Bank and has become fodder for a modern day apocalyptic global famine scenario. The Svalbard Seed Bank is also known, as the Dooms Day Vault. It is a well-guarded fortress located 810 miles from the North Pole on the Norwegian island of Spitsbergen. The seed vault houses seeds from every continent. **My big concern here is that the DuPont Corporation, Monsanto Corporation, the Rockefeller Foundation and the World Bank are among those who help manage the trust fund for this seed bank.**

GMO's - I personally hate them and feel they are not only a rip off, but a danger to humans and nature. I had a hard time when I was researching GMO's to find non biased information. In fact the only sites I found were:

<http://www.gardenersnet.com/atoz/gmo.htm>; <http://www.csa.com/discoveryguides/gmfood/overview.php> and [http://greenbio.checkbiotech.org/news/pros\\_and\\_cons\\_genetically\\_modified\\_seeds](http://greenbio.checkbiotech.org/news/pros_and_cons_genetically_modified_seeds).

*It took 3 to 6 results pages from a Google search on "GMO seeds" to get a solely "pro" set of information. To me that says alot!*

Some other articles of interest on this subject are:

**\*\* Must Read \*\* Genetically Modified Ingredients Overview** <http://www.seedsofdeception.com/Public/BuyingNon-GMO/index.cfm>  
*Which contains an important summary of what crops, foods and food ingredients have been genetically modified as of July, 2007.*

**\*\* Must Read \*\* Genetically Modified Foods: Harmful or Helpful?** <http://www.csa.com/discoveryguides/gmfood/overview.php>

**\*\* Must Read \*\* The Pros and Cons of Genetically Modified Seeds**

[http://greenbio.checkbiotech.org/news/pros\\_and\\_cons\\_genetically\\_modified\\_seeds](http://greenbio.checkbiotech.org/news/pros_and_cons_genetically_modified_seeds)

**\*\* Must Read \*\* What is called "biotechnology" is a vital issue that impacts all of us - GMO** <http://www.raw-wisdom.com/50harmful>. *It goes on to list the 50 Harmful Effects of GM Foods.*

**Does planting GMO seed boost farmers' profits?** <http://www.leopold.iastate.edu/pubs/nwl/1999/1999-3-leoletter/99-3gmoduffy.htm>

**GMO Seeds: 'MNCs Gaining Total Control Over Farming'** <http://www.globalresearch.ca/index.php?context=va&aid=7602>

**Genetically Modified Seeds 'Are Everywhere'** <http://www.disinfo.com/2010/02/genetically-modified-seeds-are-everywhere/> and <http://www.newscientist.com/article/mg20527453.800-genetically-modified-seeds-are-everywhere.html>

**Monsanto, the FDA, and genetically modified seeds** <http://www.enviroblog.org/2009/03/special-to-enviroblog-by-amy.html>

Millions Against Monsanto Campaign - Monsanto's Global Corporate Terrorism <http://www.organicconsumers.org/monlink.cfm>

USDA Makes a Deal with Monsanto - Hey Farmers! Buy Genetically Modified Seeds, Get Insurance Cheap

<http://www.thedailygreen.com/environmental-news/latest/genetically-modified-47122604>

Do Seed Companies Control -Scientists must ask corporations for permission before publishing independent research on genetically modified crops. That restriction must end GM Crop Research? <http://www.scientificamerican.com/article.cfm?id=do-seed-companies-control-gm-crop-research>

Why Genetically Modified, Drought-Resistant Seeds Are a Waste of Time and Money

<http://www.treehugger.com/files/2009/08/genetically-modified-drought-resistant-seeds-waste-time-money.php>

Seeds of Deception - Exposing Industry and Government Deception About the Safety of the Genetically Engineered Foods You're Eating <http://www.wanttoknow.info/deception10pg>

Can GMO seeds be 'sustainable'? <http://www.grist.org/article/can-gmo-seeds-be-sustainable/>

Monsanto buys 'Terminator' Seeds Company <http://www.engdahl.oilgeopolitics.net/GMO/Monsanto/monsanto.html>

Monsanto and Its GMO Seeds Under DOJ Scrutiny <http://www.takepart.com/news/2009/12/01/monsanto-comes-under-doj-scrutiny>

Monsanto GMO Ignites Big Seed War <http://www.npr.org/templates/story/story.php?storyId=122498255&sc=nl&cc=sh-20100116>

GMO Seeds Benefit Environment <http://gmopundit.blogspot.com/2007/07/gmo-seeds-benefit-environment.html> found on page 3 of the Google search results pages

GMO Seeds Benefit Environment <http://www.aces.uiuc.edu/news/stories/news4069.html> found on page 8 of the Google search results pages

*“Why try to explain miracles to your kids when you can just have them plant a garden.” ~Robert Brault*



TNT

From a 50 Something, homesteading, Prepper ;-}

