



# The Need for Heirloom Gardens



by A. Brent Smith

With the state of the economy, and concerns about the safety of pesticides and GMO “frankenfoods” leading more people to raise their own food, many of these new gardeners are looking into what species and varieties they should try to plant. Several have called my office asking about what they should do. Well, that has no easy answer. Let’s look at some advantages and disadvantages of using heirloom variety crops.

One major reason to save as many varieties of heirloom fruits and vegetables as possible is to maintain genetic diversity and variability, as a means of addressing future disease and environmental threats. Unfortunately, the loss of genetic seed diversity facing us today may lead to a catastrophe far beyond our imagining. The Irish potato famine is an example of what can happen when farmers rely on only a few plant species as crop cornerstones. This catastrophe led to the death or displacement of two and a half million people in the 1840s. One blight wiped out the single potato type that came from deep in the Andes mountains; since it did not have the necessary resistance. If the Irish had planted different varieties of potatoes, one type could have resisted the blight. The possibility does exist, however that all the varieties available at that time could have been susceptible. This

is one reason given for the new doomsday seed vault that has recently been built on an island above the arctic circle.

Many species of crop plants have been reduced to a few varieties due to the “Green Revolution” activities

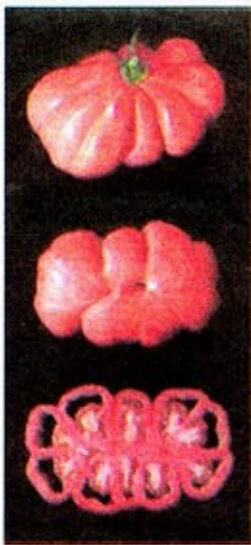
in the last half of the 20th century. These programs encouraged peoples in third world countries to use only specific varieties, that had higher yields. These varieties outproduced many of the native varieties, which were often abandoned. Unfortunately when one of the native diseases or environmental conditions reappeared, many of these introduced varieties were ill suited to deal with them. The only solution was more fertilizer and pesticides. This worked for a while, but with ever diminishing returns.

Occasionally hybrid varieties can be used to address such problems. We need to differentiate between hybrids, and GMO or “frankenfood” varieties. A hybrid variety is a crossbred offspring of two or more known varieties. These are often artificially bred from very different looking parent varieties. The seed from these plants will not have true strains of fruit, and you’ll end up with weird looking crops if you get anything at all. Several will be sterile, or have greatly reduced fitness.

A GMO is a variety or specie that has genetic material from other species; often bacteria or animal, inserted by genetic researchers to get a desired trait. Being an agricultural researcher myself, I have dealt with several of these varieties, and personally I am not convinced that many of them are as safe as advertised, and several are known to be dangerous to many people from an allergy standpoint. While the person may not be allergic to the crop before modification, the addition of the genes from bacteria, fungus etc., produces proteins that an individ-



An example of an heirloom bush bean variety trial. Irregular growth is expected with heirlooms, and isn't a big problem in a home garden setting.



ual is allergic to.

When using heirlooms, or open pollinated varieties, you should make sure to maintain plenty of distance between them and other varieties that could contaminate the genetics of your plants. This data can be found through a variety of resources. You should also look up how they are pollinated. If the crop is wind pollinated easily, then some type of screen of taller plants should be used. If honey bees are the primary pollinator, then make sure not to plant other

varieties in the same row, since studies show bees will more likely travel up the same row of a crop while foraging instead of moving from row to row. Also, in the case of corn, a 500 ft buffer is needed with many varieties due to both bee and wind pollination contamination concerns. If your plants become contaminated, then they are in essence hybrids. As with other hybrids, the seeds will not be true strain, so you'll not know what next years crops will look like, if they aren't sterile. Other than that, they are perfectly edible and useful.

Many seed companies are trying to buy known stockpiles of heirlooms to get them out of circulation. They also advertise that their seeds are superior to what the farmer can save. In a few species this may be accurate, but a study several years ago found that 65% of the farmer saved seeds were as good as anything the seed companies could provide. This from low tech, low cost methods anyone can



An heirloom tomato greenhouse experiment the author is currently conducting. Note the wilted plants are the 'Green Zebra' variety, that is more susceptible to Fusarium wilt than other varieties.

do.

When dealing with heirloom type varieties, you must realize that they do have a few problems that are the reason most people demand developing new hybrids. Several are susceptible to some diseases or environmental factors. Others have growth traits that are not wanted. For instance, certain varieties of tomatoes crack and split, or have "green shoulder" worse than others. When choosing what you wish to plant, these factors should be weighed into your decision, just as flavor or size is taken into consideration. One size does not fit all. Speak with people in your area that raise heirlooms to see what works for them. Several new companies and groups are appearing that carry heirloom seeds and information. Use these resources.

The interest in heirlooms is growing so rapidly that many universities are now being forced to look at them.

This information can be found at your local extension office. As with anything, be sure to do your research, ask around. Several failures may occur before you succeed. Don't give up, and though hard to do, be patient. Another thing, not all the "weeds" in your garden are truly weeds. Many are not only quite edible, but are also more nutritious than many of the crops we plant. Learn more about

these plants. They can make a nice addition to your garden.

## Notched Kitchen Knife Cuts Small Weeds

MANY home gardeners and nurserymen find it difficult to keep weeds from their seed flats and young plants. An efficient weeding tool can be made by notching an ordinary kitchen knife as shown. To do this, I used a hack saw. Any weeds not cut by the knife will catch in the notches and be pulled out by the roots.

—JACK MCKINNEY.

