Wet seed processing methods have the advantage of enabling the separation of good seed from poor-quality seed, thus yielding better quality seed. When good quality, freshly extracted seed is added to, or extracted in water, the good quality seed sinks to the bottom because the seed is denser. Poor quality seed is less dense because the seed is immature or not well filled out, and being less dense, it tends to float off with the wash water. A potential problem with the wet processing methods is that some good quality seed may float due to the fact that tiny air bubbles stick to the seed causing them to become buoyant during the washing procedure. This is a problem with certain species such as *Capsicum pubescens*, which has downy or hairy seeds. It can also be a problem with certain varieties of peppers, but the seed buoyancy problem is more often due to the washing technique than the variety of pepper. Floating of good seed can be avoided by not introducing air into the wash water. Instead of spraying wash water into the container from a hose nozzle (which introduces air bubbles into the mash), water should be added beneath the surface of the mash in such a way to avoid introducing air. If there is a problem with air sticking to the seeds, a solution is to take the palm of your hand and gently push the seeds down under the water surface. This will cause many of the good seeds to sink to the bottom. Using this technique it is possible to recover some good seed that would otherwise be washed away. One other important aspect of the wet processing technique is that the mash should be well diluted prior to pouring off the wash. If the mash is not well diluted the specific gravity of the mash may be too high causing some good seed to be lost in the wash.

Though the dry seed extraction method involves fewer steps, it may not be as efficient in separating good quality seed from poor quality seed. That said, it is still possible to get some separation of good and poor quality seed by using an acceptable winnowing or air separation technique. Whether using water or air separation, the principle is the same because both techniques are based on buoyancy.

The extraction method used (either wet or dry) depends largely on the how much seed is to be processed, what type of seed quality is desired, the type of equipment available, fruit characteristics such as fruit size and pungency, and perhaps personal preference, which is influenced by the other factors. My recommendation is to use wet processing with a 24-hour fermentation period. The fermentation serves several purposes: (1) it loosens bits of placenta and other debris from the seed coat, (2) it gives cleaner seed by breaking down plant material making the separation and washing easier, and (3) it gives higher germination seed when the seed is properly washed. The 24-hour fermentation may not be long enough (typically a 72-hour process) to kill certain diseases, but since fermentation is also used as a sanitizing step, this is a step in the right direction in the goal of providing quality seed.

When washing the seed after fermentation, it is important to add lots of water to the pulp or mash (especially on the first wash), otherwise the dissolved soluble solids in the mash will raise the specific gravity of the liquid thereby reducing the efficiency of seed separation and may cause loss of some good seed.

For the sake of completeness, I have described several methods of seed extraction based on the scale of operation and the type of equipment that can be used. In most cases the advantages and disadvantages of each method are also described.

Large-scale extraction methods (hundreds of pounds of seed)

Large-scale commercial processing method:

The fruit is cut and macerated by machines that are used for almost any wet-processed fruit such as tomatoes. The macerated fruit is discharged from the rollers onto a large rotating screen where the seed is washed free of the larger pieces of pulp, stem fragments, and skin. The fruit is then fermented for 24 hours in large vats, though fermentation of pepper seed is not practiced as much as in the past, possibly because chemicals are used to kill disease organisms, or to reduce costs.

Small-scale extraction methods (ounces to several pounds of seed)

Dried core hand-extraction method:

Remove the seed-bearing cores of the fruits and let them air dry. In using this method in the humid Mid-Atlantic and South, it essential that the cores dry in a well-ventilated, air-conditioned