

# III

## How to Clean Seed in Berries

Fleshy fruits include: toyon (*Heteromeles arbutifolia*), coffeeberry (*Rhamnus californica*), elderberry (*Sambucus spp*), rose (*Rosa spp.*), huckleberry (*Vaccinium ovatum*). These must be fully ripe to be viable and for ease of cleaning (although there is no easy way to clean toyon).

### **Procedure**

#### **Supplies:**

1. Food processor-blades covered with duct tape
2. Screens
3. Bowls or pie pans
4. Block of wood covered with screen
5. Water in sink
6. Rolling pin

#### **Extraction:**

*For small amounts of seed, berries may be opened and seed extracted by hand; thumbnails work well. For larger amounts, the following steps may be taken:*

1. Weigh berries before cleaning. Include all material usually brought in from the field.
2. Record collection information each day that a collection is done with the uncleaned weight for the day.
3. Put berries in food processor and pulse whiz until berries are opened and seeds floating free. Do not process so long that seeds are injured by blades. Do not use food processor if it causes injury to seed.



**Figure III-1:**  
*Rose berries.*



**Figure III-2:**  
*Weighing uncleaned seed.*

4. Remove stems and floating leaves from pulp.

*If a food processor is not appropriate, berries can be put in a wire food strainer/colander:*

1. Use fingers (put on exam gloves, if you want to keep your skin its original color) to mash berries into screen and break them open. If seeds do not go through the screen mesh, than it can also be used to rinse. If the screen is too course, find a finer screen, or mash berries in a bowl and use a cloth to rinse pulp, by putting pulp on cheesecloth and placing it inside of a strainer.
2. Place strainer/colander/cheesecloth under running water until, water runs clear.
3. Place seed and skins in a bowl with slanted sides or a pie pan if small amount.
4. Fill the bowl 3/4 full with water.
5. Skins will float, most seeds that are ripe and full will sink.
6. Swirl water and carefully pour off the skins. If skins adhere to seed, rub on screen again and repeat above steps.
7. Carefully pour off remaining water through a screen or cheesecloth.
8. Spread seed on a screen as described in *Procedure Sheet: I*.
9. Put label with propagule code, species name, collection site or watershed, project, and date collected with the seed.
10. When dry, weigh the seed again and record.
11. Toyon should be crushed with a rolling pin, then soaked in water for several days until fermentation commences. This will begin the separation process. Then the same steps, as above should be followed.

### **Storage:**

*When seed is dried, no moisture can be felt when held in hand. Label a Ziploc® type bag with the following:*

1. Propagule code
2. Species name



**Figure III-3:**  
*Using food processor to break up berries.*



**Figure III-4:**  
*Place processed berries on screen under running water.*



**Figure III-5:**  
*Seeds and skin from screen; skins will float to top, and seeds will sink.*

3. Project name(s)
4. Collection site or watershed
5. Clean dry weight, in grams
6. Pour dry seed in *Ziploc*® and put in refrigerator in alphabetical order by project or by species (*Ziploc*® bags are used too prevent absorption of moisture by the seed; if a paper bag is used, seed can gain moisture and mold or begin germination). Bags are stored in the refrigerator to slow down respiration (death), for the same reason food is stored in the refrigerator: it will last longer.



**Figure III-6:**  
*Weighing  
cleaned seed.*

### **To Sow, Store, or Stratify:**

1. Dry storage keeps seed dormant until it is sown or put into stratification.
2. If the seed is to be sown fresh, go to the designated *Procedure Sheet*.
3. If the seed requires cold stratification before sowing, but the date to begin stratification is at a future date, then seed should be dry stored, go to *Procedure Sheet II: How to Store Dry Seed*.
4. If the seed is to be stratified or scarified, go to *Procedure Sheet VI: How to Stratify Seed* or *Procedure Sheet IV: How to Scarify Seed*.
5. To calculate stratification date, see *Procedure Sheet V: How to Calculate Seed Stratification Date*.