

## Separation (cont.)

discussed, the collection vehicle would empty the paper in another area of the processing plant. First, the material is visually inspected. A skid loader pushes the satisfactory paper into a receiving pit. Once again, a conveyor hauls the product into a baling machine. The 500 kg bales are bound and stacked. Optional equipment designed to separate the different grades of paper is available.

A sorting plant in Odense, Denmark, can take all recyclables in as one mixed product and separate the commingled material into individual components. Other high-tech processing machinery includes scanners, computers and compressed air. P.E.T., H.D.P.E. and P.V.C. (*Polyvinyl Chloride*) containers pass over a sensor that checks to see if the container is clear or opaque. The computer is programmed to acknowledge P.E.T. and P.V.C. as clear, while opaque items are recognized as H.D.P.E. The first two resins are separated from the third by a burst of compressed air; the computer triggers a nozzle that blows the H.D.P.E. away from the other plastic. A second scanner checks the clear items for chlorine ions; chlorine is used in the making of P.V.C. The computer sends a message to another nozzle that propels the P.V.C. onto a different conveyor belt. The three different streams of containers are double checked for contamination by human workers. The downside of sophisticated machinery is, it is expensive to purchase. More importantly, it cannot think like an actual person.

Another system that stems from source separation is wet/dry processing. As the name implies, waste is collected in two categories. The wet portion is food waste and other *organic garbage* (some systems do not take yard waste due to the volume of material that would be received). The dry element is another name for recyclables. At the recycling facility, the two wastes are processed separately. In some cases the wet material is inspected for contaminants such as recyclables or hazardous waste. Upon passing inspection, the trash is ground into fine pieces. It is then placed in a commercial composter. This can be a vessel where the conditions needed for composting are simulated over an accelerated time frame. In a matter of weeks, an end product, ready for use, can be recovered.

The other way to process wet trash is to let it compost naturally. Some facilities keep the wet material indoors while it is composting; others place it outdoors. Periodically, the piles are turned to assist the process. Eventually, the material breaks down and is screened. Contaminants and pieces too large to compost are removed. The pit fall of not removing the unwanted items before composting is, the finished

