COMPOST....

WHAT IS IT?
WHAT CAN IT DO?
HOW IS IT PRODUCED?
WHAT CAN I USE IT FOR?

What is Compost?

Compost is the product resulting from the controlled biological decomposition of organic material that has been sanitized through the generation of heat and stabilized to the point that it is beneficial to plant growth. Compost bears little physical resemblance to the raw material from which it originated. Compost is an organic matter source that has the unique ability to improve the chemical, physical, and biological characteristics of soils or growing media. It contains plant nutrients but is typically not characterized as a fertilizer[1].

How is compost produced?

Compost is produced through the activity of aerobic (oxygen requiring) microorganisms. These microbes require oxygen, moisture and food in order to grow and multiply. When these resources are maintained at optimal levels, the natural decomposition process is greatly accelerated. The microbes generate heat, water vapor, and carbon dioxide as they transform raw materials into a stable soil conditioner. Active composting is typically characterized by a high-temperature phase, that sanitizes the product and allows a high rate of decomposition, followed by a lower temperature phase that allows for the product to stabilize while still decomposing at a lower rate[2].

Modified from: The U.S. Composting Council's (USCC) Field Guide to Compost Use[1,2]

Benefits of Compost Use

- Improves the soil structure, porosity, and bulk density – creating a better plant root environment
- Increases moisture infiltration and permeability of heavy soils – improving drainage and reducing erosion and runoff
- Improves moisture holding capacity of light soils – reducing water loss and nutrient leaching
- Improves and stabilizes soil pH
- Improves cation exchange capacity (CEC) of soils – improving their ability to hold nutrients for plant use
- Supplies a variety of macro and micro nutrients
- Supplies significant quantities of organic matter
- Supplies beneficial microorganisms to the soil – improving nutrient uptake and suppressing certain soil-borne diseases
- Can bind and degrade specific pollutants

Compost Applications

- Soil Incorporant
  - Turf Establishment
  - Garden Bed Preparation
  - Crop Production
  - Reclamation / Remediation
  - Nursery Production
  - Roadside Vegetation
- Growing Media Component
  - Container/Potting
  - Landscape (e.g., rooftop, raised planters)
  - Backfill Mixes (tree and shrub planting)
  - Golf Course (e.g., tee, green, divot mixes)
  - Manufactured Topsoil
- Surface Applied
  - Garden Bed Mulch
  - Crop Production Mulch
  - Erosion Control Media
  - Turf Topdressing

For more information on composting or compost use, contact the US Composting Council, or check out it's web-site at www.compostingcouncil.org

TOWN OF VALDESE WWTP
LAKE RHODHISS WASTEWATER TREATMENT PLANT

2100 Lake Rhodhiss Drive
P.O. Box 339
Valdese, NC 28690
(828)879-2131

COMPOST INFORMATION SHEET

The method of composting used at the Lake Rhodhiss WWTP (owned by the Town of Valdese) is the **Aerated Static Pile Method**. Sewage sludge is dewatered to approximately 20% solids, mixed with a bulking agent (wood chips), and aerated for 21 days. The aeration accelerates the natural decomposition of the sludge and wood material. Conditions are maintained in such a way as to assure that all parts of the compost pile reach a minimum of 131 degrees Fahrenheit for at least three consecutive days. This temperature has been determined to kill virtually all harmful bacteria and other pathogenic organisms. The compost pile also maintains a temperature of 113 degrees for at least 14 consecutive days. The final product is a rich, black, humus-like material. This compost product has value as a soil conditioner and as a low-grade fertilizer.

The Aerated Static Pile Method of composting is approved by the EPA as an affective method of sludge stabilization and pathogen reduction. The Town of Valdese operates the composting under **PERMIT NO. WQ 0001990** issued by the North Carolina Environmental Management Commission.

Application of residuals to land is prohibited except in accordance with the instructions on this information sheet. Biosolids shall be prevented from entering any public or private water supply source (including wells) and any stream, lake, or river. Residuals shall not be applied to any site that is flooded, frozen or snow-covered. Adequate care should be taken to prevent surface runoff from carrying any disposed or stored residuals into any surface waters.