

MANUAL FOR HOME COMPOSTING

Organic waste constitutes the highest percentage of the municipal waste in Albania. If the organic waste is disposed in landfills, as it was the case in Vlorë and Selenicë in the past, large amounts of methane and leachate are produced there. As Methane is a major greenhouse gas harming our climate, it should be collected and treated. Similarly, the leachate might transport the hazardous substances to surface and ground water, if it is not collected and treated.

However, from organic waste, if separately collected, nutrient-rich compost can be produced. At a glance, composting means the decomposition of organic matter mainly by bacteria and fungi under controlled conditions. The produced compost can then be used for conditioning and fertilising soil in agriculture and horticulture.

Compost is an excellent material for growing quickly maturing crops like vegetables and flowers. Compost adds balanced nutrients to soil and helps improving soil structure.

LOCATION

The compost heap should be piled up on the bare ground in order to be reached by microorganisms and worms. The location should be shaded and wind protected without influence of extreme weather conditions.

PRE-TREATMENT OF MATERIAL

Hard and bulky organic waste needs to be shredded or cut in approximately 5 cm long pieces before piling up of the compost heap and be mixed evenly with soft organic waste. Those shredded materials (e.g. wood, tree and hedge trimmings) serve as structural material to ensure good aeration. The shredded material can be stored to ensure availability throughout the year.

In general, material should be mixed and adding large quantities of one material should be avoided.

APPROPRIATE MATERIAL

 <ul style="list-style-type: none"> ✓ Gras cuttings ✓ Leaves and branches ✓ Cuttings and peelings from vegetables ✓ Cuttings and peelings from fruits ✓ Eggshells ✓ Tee bags ✓ Coffee filters and grounds ✓ Newspaper used as wrapping for kitchen waste 	 <p>ORGANIC WASTE</p> 	 <ul style="list-style-type: none"> × Cooked food, meat, bone, fish, animal fat × Dog and cat manure × Plastic × Glass × Metal × Paper × Construction and demolition waste, oil, paint, coal ash × Processed wood × Diseased plant parts × Diapers
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PILING UP OF THE COMPOST HEAP

After selecting an appropriate location, the compost heap can be set up. The ground should be water permeable soil to ensure that microorganisms can move into the heap and water can drain away.

The width of the waste should be approximately 2 meters while the height should not exceed 1.5 meters. Composters made of wooden boards as displayed in the figure below are a good way to create a smaller delimited area for the compost heap. Spaces between the boards are crucial as to ensure sufficient aeration.

To allow proper drainage and aeration:

- The first layer needs to be approximately 20 cm of structured material (tree trimmings, branches, etc.).
- Then, organic kitchen waste can be applied, thinly covered with old compost or soil.
- The compost can be piled up (flat) until the maximum height is reached.

- The top layer should be a protective layer of grass clippings, reed mats or straw.

The preferred season for piling a compost heap is spring or summer as the micro-organisms are optimised for warmth as the activity is reduced with cold temperatures.



TURNING

After a period of three months, the pile can be turned in order to favour the decomposition process and increase aeration. Turning may be necessary earlier in case the material is too wet. Preferably, the heap should be turned during warm periods in spring and summer.

WATERING

The composting process is based on the activity of microorganisms that degrade the organic material and optimised living conditions should be promoted for them. Without water, the activity of the organisms and hence, composting is slowed down. Watering is necessary in extended dry periods without rainfall and needs to be cared for regularly due to evaporation. The material should be at most as wet as a squeezed-out sponge. However, the compost heap must not be too wet as this impedes proper aeration. During heavy rains especially at the beginning of piling the heap, a cover may be necessary.



AERATION

Composting is an aerobic process and therefore requires sufficient aeration to prevent anaerobic digestion and formulation of methane and other odorous substances (bad smell). Coarse and structured material ensures aeration of the material. Furthermore, the walls of the container need to be air permeable/ constructed with sufficient space between them. The pile should not exceed a height of 1.5 meters.

FINISHING OF COMPOSTING PROCESS

The material has various maturation grades during the composting process. After approx. 3-4 months it reaches the fresh compost status. This material can be used as mulch and for soil improvement.

Depending on the composting process and framework conditions, the full maturation is achieved after 6-12 months. The mature compost, also called as humus fertiliser, has a uniform crumbly texture and the smell of damp forest soil.

PREPERATION FOR USE

The ready compost shall be sieved before application. Depending on the requirements of the final usage, different screen sizes can be used. Fine compost has a particle size of less than 15 mm,

while the average particle size of the mulch standard compost is between 15 and 40 mm. The fine compost is used for sprinkling on lawns or flower beds, while the standard compost is suitable to improve soil with coarse structure. The particles greater than 40 mm are returned to the composting process.



STORAGE OF COMPOST

Compost can be stored covered by e.g. wood or a thick layer of foliage to retain moisture and nutrients. But it should not be stored for more than one year as the organic substances get decomposed to an excessive extent and do not contribute sufficiently to humus enrichment.

USAGE OF COMPOST

Depending on the application purpose, the fresh or mature compost can be spread on almost all patches and green areas in the garden. For some plants it is not suitable due to its nutrition composition, e.g. Rhododendron. In any case, overdosing should be prevented and compost should be applied not only on vegetable beds but flower patches and the entire garden area. Only during the growing period in spring and summer, and to the soil on the surface, compost should be applied.