ECO MASTER COMPOST NACE

Transform Your City... Purify the atmosphere Convert unhealthy garbage into nutrients for hygienic, beautiful, scenic landscape



හැඳින්වීම

ශී ලංකාවේ ඝන අපදුවා කළමනාකරණය සඳහා එකෝ මාස්ටර් කොම්පෝස්ට් යන්තුය හඳුන්වා දීම

ශී ලංකාවේ ඝන අපදුවා වලින් 40% පමණ කාබනික දුවා වන අතර, ඒවා නිසි පරිදි කළමනාකරණය කිරීම තුලින් පරිසර දූෂණය වැලැකීම, යහපත් සෞඛා හා පුමාණාත්මක ආර්ථික පුතිලාභ ලබාගත හැක. ශී ලංකාව තුළ කසල කළමනාකරණය සම්බන්ධයෙන් විවිධ වාාපෘති විටන් විට ආරම්භ කළද, අවම තාඤණය, දිගු නිෂ්පාදන කාලය, නිරන්තර අවධානය නොමැතිකම, මහජන විරෝධතා වැනි හේතූන් මත, අපේක්ෂිත පුතිඵල ලබා ගැනීමට නොහැකිවී ඇති බව පෙනේ. මෙම ගැටළු හා ඉදිරිපත් කළ හැකි වඩා ඵලදායී විසඳුම ලෙස, ජපන් වේගවවත් කොම්පෝස්ට් තාඤණය අනුව නිපදවා ඇති එකෝ මාස්ටර් යන්තුය හඳුන්වා දිය හැක.

දැනට ශී ලංකාව තුළ භාවිතා වන කුමචේද අනුව කොම්පෝස්ට් නිපදවීම සඳහා සති 6-10 පමණ කාලයක් අවශා බව සනාථ වී ඇත. ඊට සාපේඤාව එකෝ මාස්ටර් කොම්පෝස්ට් යන්තුයේ විශේෂත්වය යන්නේ, ටොන් 1 ක උපරිම ධාරිතාව ඇති යන්තුයට කොම්පෝස්ට් නිපදවීමට ගත වන්නේ පැය 4 ක් වැනි අවම කාලයක් වීමය. ඒ අනුව යන්තුයේ දින ඵලදායීතාව ඉතා ඉහළ මට්ටමක පවතින බව පැහැදිලි වේ. මේ සඳහා අවශා වන්නේ අඩි 10 x 10 ක අවම භූමි පුමාණයක් පමණි. මීට අමතරව අවශාතාවයට හා ඉඩ පුමාණයට සරිලන ධාරිතාවටයන්ගෙන් යුතු යන්තු නිර්මාණය කළ හැක. උදාහරණ ලෙස කිතෙල් 500, 200, හා 100 වැනි යන්තු ද, ශාහස්ත හෝ සුළු පරිමාණ වහාපාරයන් සඳහා කිලෝ 10 ක යන්තුයක් වුව ද නිර්මාණය කළ හැක.

එමෙන්ම දිවයිනේ ඕනෑම දේශගුණික තත්ත්වයක් යටතේ මෙම යන්තුය කිුයාත්මක කළහැකි වීම ද විශේෂයකි. මෙම අධි තාඤණික නවතම නිපැයුම පරිසර හිතකාමී හා භාවිතයට පහසු වනවා මෙන්ම, අවම සේවක පිරිසකින් මෙම යන්තුය කිුයාත්මක කළ හැකි වීම ද වැදගත් කරුණකි.

මෙම යන්තුය මගින් කොම්පෝස්ට් පොහොර නිපදවීමේ ද, කාබනික හා දිරිපත්වන අපදුවා පමණක් භාවිතයට ගනු ලැබේ, (කරුණාකර ඇමුණුම බලන්න) කාබනික ජීර්ණය කරන ද පොහොර නිෂ්පාදනය සඳහා උපයෝගී කර ගනු ලබන ක්ෂුදු ජීවීන් දේශීය වශයෙන් සපයා ගනු ලබන අතර, එමගින් නිෂ්පාදන වියදම අවම මට්ටමක පවත්වා ගත හැක. එකෝ මාස්ටර් යන්තුයේ නඩත්තු හා අළුත් වැඩියා කටයුතු අප සමාගම මගින් නියමිත පරිදි නිසි වේලාවට සිදුකරනු ඇත. යන්තුයේ හඳුනාගත් උපංග සඳහා වසරක වගකීම් සහතිකයක් ලබා දෙන අතර, එහි පුධාන මෝටරය සඳහා වසර 4 ක් වේ.

ඉහත තාඤණයෙන් හා එලදායීතාවයකින් යුතු පරිසර හිතකාමී මෙම යන්තුය භාවිතයට ගැනීමෙන් ඝන අපදුවා කළමනාකරණය සම්බන්ධව දැනට ශී ලංකාව මුහුණ දී ඇති ගැටළු සාර්ථකව විසඳා ගත හැකි අතර, ඒ සඳහා තවදුරටත් ඔබට කරුණු පැහැදිලි කර දීමට අප ආයතනය බැඳී සිටී.

කොම්පෝස්ට් කසළ අපදුවා

★ පිසින ලද ආහාර දුවා, ★ එළවළු හා පළතුරු අපදුවා, ★ මාලු මස් හා කුකුළු මස් අපදුවා, ★ මුළුතැන්ගෙ යි අපදුවා, ★ උදාහන අපදුවා, ★ අතුගා රැස්කරන ලද අපදුවා, ★ පොල්, තැඹිලි, කුරුම්බා ලෙලි.

එකෝ මාස්ටර් කොම්පෝස්ට් යන්තුය භාවිතය මගින් අපේක්ෂිත පුතිලාභ

★ එකෝ මාස්ටර් යන්තුය ස්වයංක්‍රීය පාලන පද්ධතියකින් කි්යාත්මක වන බැවින්, අවම සේවක සංඛාාවක් පමණක් අවශා වේ. ★ එකතුවන කසල පුමාණය හා පවතින ඉඩ පුමාණයට සරිලන නිෂ්පාදන ධාරිතාවයන්ගෙ න් යුතු විවිධ පුමාණයේ යන්තු නිපදවීමට ඇති හැකියාව. ★ දිවයිනේ පවතින විවිධ දේශගුණික හා වෙනස්වන කාලගුණික රටාවන් හේතුවෙන් කසළ කළමනාකරණයට සිදුවන බාධා ඉවත් වීම, ★ පරිසර හිතකාමී කසල කළමනාකරණය, ★ වටිනා කාලය ඉතිරි වීම, ★ යන්තුයේ දිගුකාලීන පැවැත්ම, ★ ස්වයං රැකියා නිර්මාණය වීම, ★ යන්තුයේ සරල භාවිතාව, අළුත්වැඩියා හා නඩත්තු කටයුතු නිසි වේලාවට කර ගත හැකිවීම.

INTRODUCTION

The Eco Master Composter is a state of the art, simple and an eco friendly machine with a high productivity. This high tech machine provides a dual solution by eradicating the garbage menace and at the same time producing high quality compost fertilizer as an end product.

In comparison to the traditional methods of making compost which takes over 3 months, it is note worthy that the speciality of this machine is the ability to make compost within 3 to 4 hours by enhanced bacterial action which is termed as "accelerated composting".

This unique machine being solely ecofriendly could provide a very effective solution against environmental pollution by producing high quality compost fertilizer out of menacing garbage, and there by prevents the usage of non organic fertilizers which could cause permanent damage to soil and life.

This will also prevent humans, animals and other living creatures from side effects such as respiratory diseases, skin disease, eye infections, impaired eye sight and cancers etc due to the long term use of non-organic fertilizers.

This 'user friendly" machine is durable internally and externally due to its quality and its solidly built structure.

It saves a large amount of time, energy and money.

It is easy to maintain.

Eco Master Composters are powered by 'Sumitomo Motor

THE ECO MASTER COMPOSTER CMP- 1000



Model	: CMP- 1000
Capacity	: 1000 Kg
Inner Capacity	: 3900 Kg
Required space	: 2700 mm x 2500 mm
Diameter	: 2300 mm
Height	: 3540 mm
Motor	: 75 KW
Electricity	: Three Phase - 420 V
Working Hours day)	: 12 hours per day (3 times a
Patent number	: 2038965
Patent number	: 2533458

THE ECO MASTER COMPOSTER CMP- 200



Model	:	CMP- 200
Capacity	:	200 Kg
Inner Capacity	:	400 Kg
Required space	:	2000 mm x 2000 mm
Diameter	:	1800 mm
Height	:	4700 mm
Motor	:	30 KW
Electricity	:	Three Phase - 420 V
Working Hours day)	•	12 hours per day (3 times a
Patent number	:	2038965
Patent number		2533458

DESCRIPTION OF PARTS OF THE ECO MASTER COMPOSTER



1. Exhaust Pipe	2. Exhaust Fan	3. Access Cover
4. Chamber	5. Discharge Window	6. Spiral
7. Shutter Cylinder	8. Gear Box	9. Electric Motor

DIAGRAM OF CONTROL PANEL



OUTLINE

Garbage

Non –Compostable Garbage Compostable Garbage

- Cooked/fried/baked foods
- ◆ Vegetable/fruits residue
- Fish/poultry/meats residue
- ♦ Kitchen residue
- ♦ Saw residue
- Garden trimming residue
- Refuse of coir
- Crop/garden sweeping residues
- Rice husks
- Coconut husks
- Young Coconut husks
- King Coconut husks

(Recyclable)

Fresh Polythene

Plastic, Papers,

Cardboard, Glasses, Steel etc...

(Non-Recyclable)

Old Polythene & plastic

To be incinerated

For making Compost

OUTLINE OF THE WAY OF DISPOSE

Organic waste degradative treatment method is in a principal composting method.

In the case of using aerobic soil bacteria, oxygen can naturally aspirate in the fermenter tub used as carrier absorption. Inside, the machine will smash and stir at the same time and supply large amount of oxygen. This process makes aerobic bacteria maximize their energy and resolute organics. Heat from this resolution makes water evaporate.

Compost resolute organic solid wastes with this dispose system and wastes will be reduced.

Therefore, the purpose of the machine's system is resolution dispose of organic wastes, different from the system to extinguish polluted mud.

In resolution of organics, though many factors are involved, only bacteria are what involved directly and proper temperature, humidity, oxygen and organics are needed for multiplication of bacteria.

Our machine can dispose in a short time by simplifying the fermenter tub for microbial growth with portrait style dispose system, which is most ecofriendly.

View showing a frame format of organics decomposition



CONCEPT OF THE ECO MASTER COMPOSTER

Since in natural world, it takes a lot of time to degrade organics, Eco Master composter is the best product to save time. And we think that leads to reduce natural world's burden since our composter helps natural world and human share the same time together.

Organic Residue Primary Fermentation Machine

The main features of this machine are;

- Amino acid extractor
- Heavy crushers for hard bones etc,
- Methane extractor
- Catalyst for the expedited decomposition
- Production of high quality compost for the organic agriculture industry

The project unit will have an acid extractor which will extort Amino acid from organic wastes. Amino acid is used in various industries including food processing and pharmaceutical manufacturing.

The system has heavy crushers which can disintegrate bones and touch seeds. Most organic garbage crushers have very thin blades and would not process bones and hard seeds. However Eco Master system employs heavy blades and will crush all types of wastes.



With the use organic catalysts to expedite decomposition process of a higher yield of compost can be obtained in a short period of time. Compost is used in organic agricultural industries such as organic tea, vegetables and fruits.

Microorganism

- Our machine executes primary fermentation of organic such as food residue and animal residue by using aerobic microorganism.
- Our machine uses dozens of aerobic microorganism(filamentous bacteria).
- ◆ It is not advisable to allow The temperature to rise above 60°C
- Our machine is consisted of about 30 types of bacteria which has the capability of bearing 3 levels (high, medium, low) of temperature.
- Our machine uses mixture of psychrophilic bacteria, mesophilic bacteria and thermophilic bacteria to execute process.
- Our machine is set so that can make the most of relation of machine and bacteria in executing the process of organic residue.

How to make mushroom beds

It takes 3 days to make mushroom beds.

- Sawdust is used for bacterial enhancement.
- Put in normal amount of 5 m³ of sawdust and check the machine in the mode of hoisting.
- See how sawdust is smashed.
- After checking the 3 items noted above, put in 50 kg of base bacteria.
- Start to stir for 30 to 60 minutes
- See the mushroom bed stirred all over.
- After that, keep them at rest for 24 hours
- ◆ 24 hours later, stir for 30 minutes and put 20kg of organic in and start to execute process for 3 hours. After that, put in 50kg to 100kg of rice bran, stir for 30mins and keep it at rest for 24hours.
- ◆ 24 hours later, stir for 30 minutes and see the temperature is over 40°C.
- ◆ After the temperature reached to 40°C, put in 100 kg to 150kg of organic residue and stir for 4 hours.
 After that, keep them at rest for 24 hours.

- After making mushroom beds, you can start using the machine.
- The moisture content in mushroom beds should be around 15%.

Machine

- Our machine has a rate of 90 rounds per minute, stirring, crushing and fermenting at the same time.
- It is made out of stainless steel.
- It has a crusher, stirring blades and rotating screw in it.
- ◆ It has a lid, a vent and an outlet.
- The processor should be handled with a timer.

Let us explain with the example of dispose of food scraps.

Since bacteria cannot eat food scraps such as vegetable and rice directly, they are decomposed by an enzyme of bacteria and changed into low-molecular compound, which is easy to eat. In the case of rice, they are decomposed to glucose sugar. Bacteria put this glucose sugar into their inside and change and/or decompose it into other different materials. In the middle of changing and decomposition, hydrogen (=hydrogen ion + electron) will be extracted. Hydrogen will be moved to respiratory chain, and hydrogen ion and electron will be carried individually, which produces energy. Finally, oxygen outside catches hydrogen ion and electron to make water. This is what we call oxygen breathing (aerobic respiration). In here, if we block oxygen out, hydrogen ion and electron lose room to go. Then, bacteria will pass hydrogen ion and electron to resolvent of glucose sugar noted above and gets them out of their body. This is ferment. Namely, since ferment is an anaerobic reaction, it is scientifically nonsense to distinguish between aerobically-fermented and anaerobically-fermented.

In fact, the material after extracted hydrogen will be emitted and/or used to make a part of bacterial bodies. This is how carbon dioxide and water are made by breaking food scraps down.

The way of reaction noted above is completely the same as the way we eat foods and get energy. However, we cannot ferment. We can take similar reaction to ferment in very short time, which we call exercise without oxygen. We breathe oxygen in and carbon dioxide out and this dioxide doesn't come from oxygen we breathe in but foods we eat.



PROCEDURE OF THE MACHINE



Uploaded garbage

Waste comes through the spiral and crushes them into small pieces.

Manufactured compost

PARTS OF THE COMPOST MACHINE



7. Shutter Cylinder

9. Electric Motor

8. Gear Box

- 1. Exhaust Pipe
- 2. Exhaust Fan
- 3. Access Cover
- 4. Chamber
- 5. Discharge Window

- MANUAL FOR BASIC OPERATION
- 1. Check the mushroom bed. Moisture content percentage should be lower than 15%.
- 2. Leave the switch on and make sure there is no abnormal noise from the machine.
- 3. Do not put hands into the machine (This is a crushing machine).
- 4. In order to bring mushroom bed back, turn the switch on after opening the outslot. The mushroom bed will be defecated automatically.
- 5. Fermentation heat will reach to 30°C060°C and it is not advisable to allow the temperature to rise above 60°C°.
- 6. According to what you throw in, volume reduction percentage will fluctuate between 30% and 95%.
- 7. Fermentation smell will be different depending on what you throw in (when you throw the garbage into the Eco Master Composter there will not be any bad smell).
- 8. If what you throw is with high water content, it will be anaerobic and emit bad smell.
- 9. If what you throw is untreated, it will be a cause to get vermin (Once you put the garbage in to the Eco Master Composter vermin will be destroyed).
- 10. Make sure to use decelerator for less than 10 consecutive hours a day.
- 11. In case if lightning strikes, flood and natural disasters, start to use the machine after receiving our stores' examinations.

BENEFITS

- Creates a better environment
- Saves time and energy
- Durability of the machine
- Compost can be made efficiently
- Provides self-employments
- Easy to maintain & user friendly
- Cost of disposing waste will be reduced by two third
- ♦ Weather proof

BENEFITS TO Sri Lanka

- Being a solely Eco-friendly solution for environment pollution
- It prevents using non organic fertilizer on soil
- Can yield Amino Acid which is essential for growth of plants
- Encourage farmers to use organic fertilizer
- Prevents farmers from the side effects, such as respiratory diseases, skin diseases, bad eye sights, cancers etc...Due to long time use of non-organic fertilizer
- Can save local money which is spent on importing non organic fertilizer
- ◆ Helps to prevent people from epidemics, such as Dengue, Malaria and Cholera

CONCLUSION

Having considered all the above facts we can conclude that the Eco Master Composter is the ideal machine to dispose the wet and vegetation garbage and to make organic fertilizer so efficiently.

This product will give us a marvellous privilege to build up a friendly environment. So let us contribute our support towards this task then we can inherit a brighter future.





MAINTENANCE AND CARE

The Eco Master Composter requires little maintenance or spare parts. However, only the Eco Master (Model) NS 1000 would occasionally require a change of oil in its gear box.

Sumitomo recommends an oil change every 2500 hours. If a proper and preventive maintenance program is implemented and maintained, a longer change period may be acceptable. Greasing of gears and nipples is also essential as per instructions.

If the unit is running in a high ambient, high humidity, or corrosive environment, the lubricant will have to be changed more frequently.

Also periodically check oil levels.

Greasing of movable parts to be done once in 5 to 6 months

Check periodically to ensure that unwanted debris such as metal, tin, plastics etc is removed from the tank to avoid unnecessary damage to the unit.

Please remember that this machine is for organic and decomposable matter.

Occasionally check gear box for movement when not in operation and check external parts if they are intact.

Keep external parts clean



WARRANTY AND TERMS & CONDITIONS

Dolphin Marine Lanka (Pvt) Ltd (the seller) warrants the articles and units sold to be free from defects in material and workmanship and to conform to applicable specifications. These warranties are the sole warranties of the seller and any other warranties, express, implied in law or implied in fact, are hereby specifically excluded.

Seller's sole obligations under its warranties shall be, at its option, to repair or replace any article or part thereof which is proved to be other than warranted.

All warranties shall expire 1 Year or 12 Months from the date the article or unit is placed in service or 1 Year or 12 Months from the date the article or unit is delivered by the seller, whichever period first expires.

NO ALLOWANCE SHALL BE MADE TO BUYER FOR ANY TRANSPORTATION, LABOUR CHARGES OR PARTS, ADJUSTMENTS OR REPAIR, OR ANY OTHER WORK, UNLESS SUCH CHARGES ARE AUTHORIZED IN ADVANCE BY THE SELLER.

Seller shall in no event be liable for special or consequential damages. If an article or part is claimed to be defective in material or workmanship, or not to conform to specifications. The warranties shall not extend to any articles, or units or parts thereof which have been installed, used or serviced, otherwise than in conformity with seller's applicable specification, manuals or instructions or, if none, which shall have been subjected to improper installation, misuse or neglect.



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Manufactured By



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