

ID: 6E521E930460

HackerRank

Certificate

This is to certify that

Mahesh Bhadane

has successfully cleared the assessment for the skill
SQL (Basic)

22 Dec, 2021

Date



Harishankaran K

CTO, HackerRank

Indian student shocks the whole world



17yr old Mahesh Shantaram Bhadane from Silvassa has shocked the whole world with his invention. Under guidance of his school teacher smt Smita Patil, he has made a Model to produce Black Soldier Fly Larvae that can turn garbage waste into manures, which can be used by farmers. He got many awards, prizes from different organizations, above all his model has been selected for NCERT science book. We need to promote such brilliant students in India, please Share and spread this post maximum.

by TheYouth team

Institute of Information & Computer Technology

Under

ઓલ ગુજરાત કોમ્પ્યુટર સાક્ષરતા અભિયાન સંસ્થા

(રજી. નં. GJ - F/2894)

Certificate



No 22155



Reg. No 80719

IICET



SM

COMPUTER EDUCATION

An ISO 9001:2008 Certified Institute

Date 07/06/2018

This is to certify that Shri/Smt./Ru.

Mahesh Shantaram Bhadane

having been examined and found pass in

Certificate Course in Programming

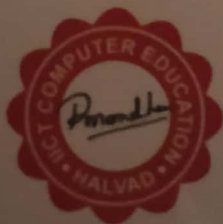
conducted by All Gujarat Computer Saksharta, Abhiyan Sanstha for
3 (Three)

months and is being awarded this certificate.

He/She has been placed in Grade **A**

Expert Computer, Silvassa

An ISO 9001:2008 Certified Institute

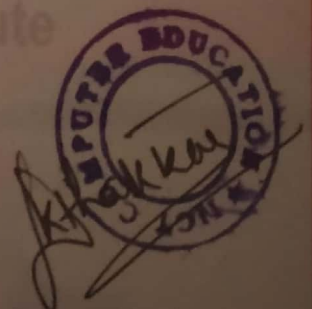


Chairman

- Computer Fundamental
- Programming Techniques
- C++

K.A. Triwari

Course Co-ordinator



Centre Seal

Grade Scale : E 90% and above, A+ 80%-89.9%, A 70%-79.9%, B+ 60%-69.9%, B 50%-59.9%, C 40%-49.9%

Head Office : 5, Raghuvanshi Flats, Station Road, Halvad (Guj.)

CERTIFICATE OF PARTICIPATION



Awarded to **Mahesh Shantaram Bhadane**
from Govt Higher Secondary Marathi Medium School , Silvassa, Dadra and Nagar Haveli
for participating at Initiative for Research & Innovation in STEM (IRIS) National Fair, held from
December 2-4, 2018 at Manekshaw Centre, New Delhi.

Subject Environmental Management (EM)

Category Individual

Project Title **Hermetia Sanitizing Bioconverter**

Dr Rajiv K Tayal
Executive Director
Indo-US Science and
Technology Forum

Dr Nisha Mendiratta
Head NCSTC
Department of Science
and Technology

Ms Shweta Khurana
Director, Corporate Affairs
Intel India

राष्ट्रीय शैक्षिक अनुसंधान
और प्रशिक्षण परिषद्
श्री अरविन्द मार्ग, नई दिल्ली 110016



NATIONAL COUNCIL OF EDUCATIONAL
RESEARCH AND TRAINING
Sri Aurobindo Marg, New Delhi 110 016

बच्चों के लिए 42वीं जवाहरलाल नेहरू राष्ट्रीय विज्ञान, गणित एवं पर्यावरण प्रदर्शनी, केरल
42nd Jawaharlal Nehru National Science, Mathematics and Environment Exhibition for Children, Kerala
16-22 दिसम्बर 2015 16-22 December 2015

प्रमाण पत्र Certificate

प्रमाणित किया जाता है कि राजकीय उच्चतर माध्यमिक विद्यालय, टोकरखाड़ा (मराठी माध्यम), सिलवासा, दादरा और नगर हवेली के स्मिता सर्जेराव पाटिल के मार्गदर्शन में महेश शांताराम भदाने द्वारा निर्मित प्रदर्श हरमेशिया सेनेटाइजिंग बायो-कन्वर्टर उपर्युक्त प्रदर्शनी में महेश शांताराम भदाने द्वारा प्रदर्शित किया गया।

Certified that the exhibit **Hermetia Sanitizing Bioconverter** developed by **Mahesh Shantaram Bhadane** from *Government Higher Secondary School (Marathi Medium), Tokarkhada, Silvassa, Dadra and Nagar Haveli* under the guidance of *Smita Sarjerao Patil* was displayed in the exhibition by Mahesh Shantaram Bhadane.

JNNSMEE 2015
MUVATTUPUZZHA - KERALA
16 - 22 DECEMBER 2015

डा. गगन गुप्त
Dr. Gagan Gupta
समन्वयक, जेएनएनएसएमई-2015
Coordinator, JNNSMEE-2015

प्रो. ए. के. वझलवार
Prof. A.K. Wazalwar
विभागाध्यक्ष, डीईएसएम
Head, DESM

प्रो. एच. के. सेनापति
Prof. H. K. Senapaty
निदेशक
Director

Certificate
of
Participation

 **AGASTYA**TM
INTERNATIONAL FOUNDATION
SUPPORTED BY S. JAINAHLAWALA FOUNDATION & OTHERS

Presents


Jigyasa
2017
A National Level Science Model Making Competition

This is to certify that Ms./Mr./Master. Mahesh. S. Bhadane
of Govt. H.S. School from Silvassa Haveli has
participated in Jigyasa, A National Level Science Model Making Competition
cum Exhibition conducted at Hubli, Karnataka between 11th to 13th Jan' 2017
under C₃ category. 2nd prize.


Chief

Date: 13th Jan, 2017

Co - ordinator Jigyasa 2017


Project Officer
Jigyasa 2017



सत्यमेव जयते

DIRECTORATE OF EDUCATION
UT ADMINISTRATION OF DADRA AND NAGAR HAVELI
31st JAWAHARLAL NEHRU
U. T. LEVEL SCIENCE EXHIBITION
FOR CHILDREN 2014-15

Certificate

विद्यया ऽ मृतमश्नुते



एन सी ई आर टी
NCERT

This is to certify that Shri/Smt./Kum. Mahesh Shantaram Bhadane
of Govt. H.S.S. Tokarkhada, Silvassa, (M.M.) D.N.H. has participated
in the activity of Static Model and won Second Prize in the
31st Jawaharlal Nehru U. T. Level Science Exhibition For Children 2014-15 held at
Govt. Higher Secondary School, Tokharkhada, Silvassa from 24th to 26th February 2015,
organised by Directorate of Education, U. T. Administration of Dadra and Nagar Haveli.

Education Officer (Admin.)
Dadra and Nagar Haveli
Silvassa

Director of Education
Dadra and Nagar Haveli
Silvassa

Place : Silvassa
Date : 26-02-2015

HERMETIA SANITISING BIOCONVERTER

STUDENT

Mahesh Shantaram Bhadane

Government Higher
Secondary School, Marathi
Medium, Tokarkhada
Silvasa, Dadra & Nagar
Haveli

TEACHER

Smita Sarjerao Patil

INTRODUCTION

By using this model, we produce black soldier fly larvae. Basically this model is useful for establishing and building larvae colonies. The black soldier flies are allowed to lay eggs in small holes over the grub bin. The black soldier fly holds much promise for converting low value manures and many other organic waste into a valuable commodity. In this way amount of waste products or garbage are reduced.

This larvae are edible and are also best at quickly converting 'high-nutrient' waste into animal feed. Black soldier fly are better at converting high cellulose materials (Paper, cardboard, leaves, plant materials except wood) into an excellent soil amendment.

PROCESS

Black soldier fly larvae (BSFL) are used to compost and sanitise wastes, and/or convert the waste into animal feed. The harvested pupae and prepupae are eaten by poultry, fish, pigs, turtles, dogs etc. The wastes include fresh manure, food wastes of both animal and vegetable origin

CONSTRUCTION OF BIPODE

This is our home made Biopode. This is also used for house-hold sanitising purpose.



Fig. 1: Biopode

First we take a plastic bucket. In the lower part of this bucket a plastic hole boll is attached. Then we put the layer of filter (scoth bright). For ventilation purpose around the round side of the unit a well crow is attached.

PVC pipe is also attached to the bucket and the box as shown in Figure 1. We put animal food in that box and the second pipe is used as outlet for sanitation purpose.

WORKING

BLACK SOLDIER FLY (HERMETIA ILLUCEN)



Fig. 2: Black Soldier Fly

The black soldier fly or *Hermetia illucens* is a common and widespread fly of the family stratiomyidae, whose larvae are common detritivores in compost heaps. Larvae are also sometimes found in association with carrion, and have significant potential for use in forensic entomology.

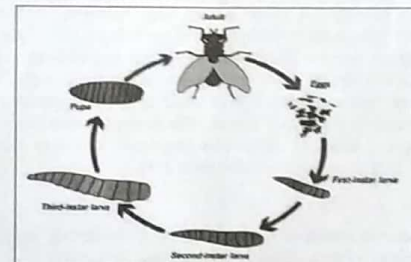


Fig. 3: Life cycle of black soldier fly

EM02

Mahesh Shantaram Bhadane

Govt HigherSecondary Marathi Medium School
Silvassa, Dadra and Nagar Haveli



HERMETIA SANITIZING BIOCONVERTER

"Hermetia Sanitizing Bioconverter" produce Black Soldier Fly Larvae. Basically this model is useful for Establishing & Building larvae colonies. The Black Soldier Flies lay eggs in small holes over the grub bin. The BSF holds much promise for converting low-value manure & many other organic "Wastes" into a valuable commodity. In this way amount of waste products or garbage is reduced. These larvae are edible to humans and are also best at quickly converting "high - nutrient" waste into animal feed. BSF are better at converting high cellulose materials (Paper, cardboard, leaves, plant materials except wood) into an excellent soil amendment. No separate facility or special equipment is needed for production or harvest. This is possible because of the migratory habits of the pre-pupae. They are not a pest to humans. They do not regurgitate food along with digestive enzymes like houseflies, thus they do not spread diseases. This larvae is also best for human health because the larvae are highly efficient in converting proteins, containing up to 42% of protein, much calcium and many amino acids. In 43 hours, 1g of BSF eggs convert into 2.4 kg of protein.

They thus can be a source of protein for human consumption. They do not produce protein, but convert human-inedible protein into edible food. Because of this BSF is also a type of medicine. Conclusion:- This model helps for Establishing & Building larvae colonies to flies, to convert waste into Valuable commodity and there is away for taking it as human medicine which converts human-inedible protein into edible at low cost, at home.

HERMETIA SANITIZING BIOCONVERTER



BACKGROUND

Composting with vermicomposting and other methods of organic waste management. Composting is a natural process, generally in the form of high temperature and aerobic activity. Following the 1997, vermicomposting is a natural process of food waste, vermicomposting, and other methods of organic waste management.

The year 2007, in the world, vermicomposting has been established as a natural process through which organic waste is converted into a rich soil. This process is a natural process, generally in the form of high temperature and aerobic activity. Following the 1997, vermicomposting is a natural process of food waste, vermicomposting, and other methods of organic waste management.

PROBLEM

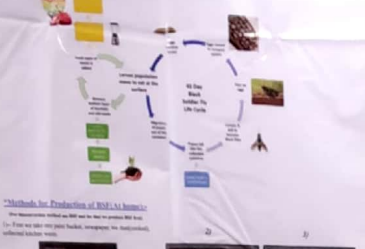
There are many waste management technologies in the world. But the problem is that they are not suitable for the environment. The waste management technologies are not suitable for the environment. The waste management technologies are not suitable for the environment. The waste management technologies are not suitable for the environment.

EXPERIMENT

My guide teacher has asked me to make a model of a composting system. I have made a model of a composting system. I have made a model of a composting system. I have made a model of a composting system. I have made a model of a composting system.



CYCLE OF WORKING



Methods for Production of BSF Larvae

The first step is to collect the BSF larvae. The second step is to collect the BSF larvae. The third step is to collect the BSF larvae. The fourth step is to collect the BSF larvae. The fifth step is to collect the BSF larvae.

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How to make Biogas (Methane)

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