BOOSTING YIELD WITH ENERGETIC SOIL

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Hi, I am Ram
In my school essay competition
will be held on the occasion of
World Soil Day. I want to
participate in this competition
so, I am going to meet my
aunty for taking information

Hi, I am Dr. Ritu
Soil Scientist
Hello Aunty!

Can you please provide me soil information?

Yes, Why not?

Let's see.

Soil is important for all living creatures on the Earth, because all humans, animals, plants, microorganisms etc., directly or indirectly depend on soil.

Soil health is the capacity of soil to perform different activities for sustaining life of plants, animals, and humans.
Soil is important for growth of plants, animals & humans. It contains many living microorganisms, beetles, earthworms etc. and these are survive on waste material which result into formation of decomposed organic matter. After decomposition nutrients are released in the soil. Such a healthy soil grows not only healthy plants but also survival life of animals & human on the earth.
Soil made up of four things i.e. Rock fragments, Dead & living things, water and air.

2. The parent material which is generally a big rock, it breaks down into smaller pieces with the help of rains, wind, temperature, microorganisms etc.

3. Soil is formed over a long period of time. It can take up to 1000 years to form just an inch of soil.
**Different Activities of Soil**

**How Soil Works?**

**Wow! I got new information about soil!**

- Soil acts as a medium for the growth of plants, microorganisms, etc.
- It is a regulator of deeper supplies to plants.
- It helps to recycle waste material.
- Soil is home to all microorganisms.
Sometimes soil becomes weak and we call it saline soil. It means increasing salt content in soil (Salinization).

- Salt occurs naturally within soil and water.
- Salination can be caused by mineral weathering.
- Artificial salination occurs by irrigation and road salt.

**Soil Salinity and Effect on Crop Plant**

<table>
<thead>
<tr>
<th>Soil Salinity Class</th>
<th>Extract (ds/m)</th>
<th>Effect on Crop Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Saline</td>
<td>0-2</td>
<td>Negligible effect</td>
</tr>
<tr>
<td>Slightly Saline</td>
<td>2-4</td>
<td>Yield of crops may be reduced</td>
</tr>
<tr>
<td>Moderately Saline</td>
<td>4-8</td>
<td>Yield of most crops restricted</td>
</tr>
<tr>
<td>Strongly Saline</td>
<td>8-16</td>
<td>Very few tolerant crops available</td>
</tr>
<tr>
<td>Very Strongly Saline</td>
<td>&gt;16</td>
<td>Yield substantially reduced</td>
</tr>
</tbody>
</table>

- Rice
- Wheat
- Tobacco

**Effect of Saline Soil**
- Results in lower productivity
- Less active organisms in soil
- More active pests

OK, it means we need to halt soil salinization for healthy growth of plant.
WHAT WE CAN DO FOR RECOVERY OF SALTY SOIL

Recovery of salty soil means prevention of soil degradation by salination and improve salty soil. The primary method of controlling soil salinity is to allow 10 – 20% of irrigation water to seep into the soil which will be removed by a proper drainage system. Another is adding gypsum, molasses, press mud cake, bagas into soil.

FACORS RESPONSIBLE FOR INCREASING SOIL PRODUCTIVITY

- Waste material
- Plant material
- Animal Waste material
- Earthworms
- Drainage

OK, then we will need to follow soil salinisation measures to increase soil productivity.
THE COMING TIME

- Weather Forecast
- Soil Checkup
- Fertilization
- Cultivation by Robot
- Crop Monitoring
- Crop Planning

Internet of Things in Agriculture

It will help to improve soil productivity
Boost: To increase something
Yield: To produce, crop profit result
Energetic: Full of energy
Creature: A living things
Salty soil: Salt content in soil
Recovery: A return to good health after an illness
Microorganisms: A microscopic organism, especially bacteria, virus etc
Sustain: To keep something live
Rock: The hard solid material that forms part of the surface of the earth
Regulator: Supervises a particular industry or business activity
Halt: A short stop in some activity, movement or growth

I need productive soil for growth.
REFERENCES


Land is not merely soil, it is a foundation of energy flowing through a circuit of soil, plant, and animal.

-- Aldo Leopold
philosopher, scientist