BIOSOLIDS:
A NATURAL RESOURCE

In 2014, Californians generated approximately 688,000 dry metric tons of biosolids, the majority of which were used for land application on agricultural land.

What are Biosolids?

Biosolids are a nutrient-rich, natural by-product of wastewater after it is treated. It is highly processed and analyzed to ensure public safety. Biosolids are generally used in one of four forms:

moist solid | dried pellets | liquid | compost

Biosolids are often used as a fertilizer and to improve soil health, but may also be used as daily cover at landfills.

Soil Enrichment

Biosolids provide multiple benefits for healthy, sustainable soils, such as:

- Improving soil's ability to absorb and store moisture; reducing the need to irrigate, and providing natural drought-resistance
- Improving soil quality and crop health, and increasing crop yields by providing nutrients, beneficial metals, organic matter, and other benefits.
- Storing carbon in the soil and reducing greenhouse gas emissions and energy consumption (unlike fossil-fuel-based, inorganic fertilizer)
- Most of the nitrogen in biosolids is organic, acting as a slow-release fertilizer, providing nitrogen when the crop needs it rather than all at once

Land Reclamation

Because biosolids have high organic content, they're exceptional at reclaiming fire-ravaged land while reducing the potential severity of future fires. And, coupled with their ability to strongly bind contaminants, they are also highly beneficial for reclaiming superfund mine sites, contaminated urban soils such as brownfields, overgrazed rangeland, and select wetlands.

Biosolids allow plants to thrive on less water

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Highly Regulated for Safety

To ensure public and environmental safety, all aspects of biosolids use are carefully planned and implemented according to comprehensive federal, state, and local regulations.

Biosolids and the Environment

It's a common misconception that biosolids contain harmful levels of heavy metals. First, pre-treatment requirements regulate what can be discharged to wastewater treatment plants. Then, rigorous treatment, management practices, and regulatory oversight lower metal content and minimize or eliminate viable pathogens and the possibility of attracting any carriers of pathogens.

Helping California Achieve Legislative Goals

A process called anaerobic digestion, used to treat solids from more than 90% of wastewater flow at California treatment plants, actually produces methane, which is then used as a fuel source. Coupled with biosolids recycling, this allows wastewater treatment plants to help the state achieve its legislative goals and mandates, including:

- A return to 1990 levels of carbon dioxide equivalent emissions
- The production of at least 33% of energy needs from renewable sources
- The recycling of 75% of the solid waste generated in the state
- A 10% reduction in the carbon intensity of transportation fuel
- Healthy soils for production agriculture
- Reduce short-lived climate pollutants for climate change mitigation

Want to Learn More About Biosolids?

Please visit **casaweb.org** for our biosolids factsheet and additional information.

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