

BSC Method

A Nature-Based Solution for Erosion Control, Slope Stabilization, and Vegetation Restoration



Biological Soil Crusts (BSCs) naturally prevent surface erosion and initiate vegetation succession. Accelerating BSC formation through algal application serves as a powerful Nature-based Solution (NbS)—offering a sustainable way to mitigate sediment runoff on steep slopes, prevent erosion in arid regions, and restore land degraded by disasters or development.



Advantages over Natural Succession

- Rapid Erosion Control
- Enhanced Native Seed Trapping
- Immediate Soil Drying Suppression

Plants that grow naturally in the surrounding area

Algal-induced BSC Method

Technical Features

● Adaptive Greening:

Promotes natural vegetation succession tailored to the local environment.

● Minimal Ecological Risk:

Utilizes cosmopolitan, asexually reproducing soil algae to protect native ecosystems.

● Rill Stabilizing:

Fast-developing BSCs seal surface rills and prevent erosion-induced cracks from widening.

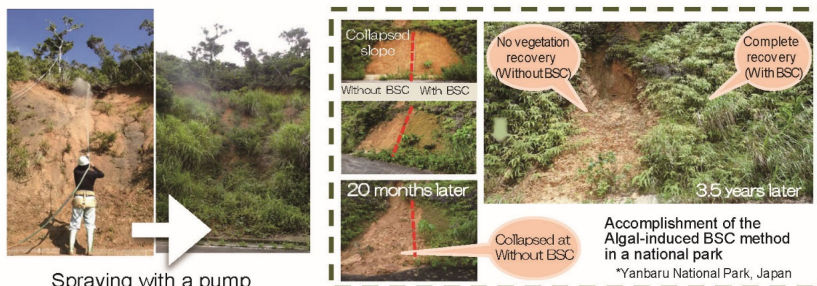
● Pioneer biological function:

Rapidly forms BSCs in nutrient-poor soil conditions, facilitating subsequent vegetation colonization.

Rapid Restoration of Native Ecosystems Following BSC Formation via Flexible Algae-Only or Seed-Mixed Applications.

Field-proven methods and related matters

- Hose & Pump Spraying: Faster, lower-cost application.
- Remote Aerial Dispersal Safe access to hard-to-reach slopes.
- This method integrates seamlessly with existing greening technologies.
- 581,900 m² implemented in Japan by 2025.



Awards, etc.

- 51st Environmental Awards - Minister of the Environment Award, 2024, in Japan
- Ministry of Land, Infrastructure, Transport and Tourism, New Technology Information System (NETIS), Recommended Technologies, 2025, in Japan

● Related patents

NATURAL INVASION PROMOTING METHOD AND SPRAYING MATERIAL

- Holder: Nippon Koei Co., Ltd. And Nikken Sohonsa Corporation
- Patent numbers:

* Under application EPC, India

Mexico	: 01474	Australia	: 2019438631
China	: 2019800821254	USA	: 11963485B2
Malaysia	: 190373-A	Indonesia	: P000083059
Taiwan	: I808242	Japan	: 6734500



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