

Application of Good Touch, Bad Touch & Sound Touch Techniques in Agriculture for Plants : An overview

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"**Good touch**" refers to Hugs and kisses from family and friends, High-fives and fist bumps from friends, Pats on the back or shoulder from coaches or teachers, Physical contact that makes you feel safe and happy etc while "**Bad touch**" refers to Unwanted or surprise touching, touching private parts (areas covered by a swimsuit), Touching that makes you feel uncomfortable, scared, or hurt, Physical contact that makes you feel unsafe or unsure etc. That's why It's essential to teach children to Say "no" or "stop" if they feel uncomfortable, tell a trusted adult if someone touches them in a way that feels bad, remember that their body belongs to them, and they have the right to control who touches it. The trees or plants can't talk like human to express their uncomforness related to Touch. Trees express "bad touch" or stress caused by physical harm, pests, or diseases through various visual and biological responses. **Sound Touch** refers to use of music for plant growth and now a day gaining popularity in agriculture.

In agriculture, "good touch" for trees refers to proper pruning, training, and handling techniques that promote healthy growth, fruit production, and overall tree well-being. Some detailed aspects of "good touch" for trees in agriculture,

1. Pruning: Prune trees annually to maintain shape, remove diseased or damaged branches, and promote fruiting. Make clean cuts just above growth nodes, using sharp and sterile tools.
2. Training: Train trees to a central leader or open center system, allowing air and light penetration. Remove weak or crossing branches.
3. Handling: Handle trees gently during planting, avoid damaging roots or bark. Use proper lifting techniques to prevent tree stress.
4. Support: Provide support for trees that need it, like fruit trees with heavy loads. Use soft materials like cloth or rubber for ties.
5. Mulching: Mulch around trees to retain moisture, suppress weeds, and regulate soil temperature.



6. Watering: Water trees deeply but infrequently to encourage deep root growth. Avoid frequent shallow watering.
7. Pest and disease management: Regularly inspect trees for signs of pests or diseases. Use organic or integrated pest management methods whenever possible.
8. Soil care: Test soil regularly and amend as necessary. Maintain optimal soil pH and nutrient levels for tree growth.

Good Touch techniques like Sustainable farming practices, Crop rotation and intercropping, Organic amendments and composting, Proper irrigation and water management, Integrated Pest Management (IPM), Minimum tillage or no-till farming, Cover cropping and mulching, Crop monitoring and timely interventions, Soil testing and nutrient management, Biodiversity conservation and ecological balance etc

By adopting "good touch" practices, farmers can Promote soil health and fertility, enhance biodiversity and ecosystem services, improve crop yields and quality, reduce environmental degradation, Support sustainable agriculture etc.

In agriculture, "bad touch" refers to harmful or improper handling, pruning, or management practices that can damage trees, reduce yields, or compromise their health. Some examples of "bad touch" in agriculture,

1. Over-pruning: Excessive pruning can stress trees, leading to disease or pest issues.
2. Improper pruning techniques: Pruning too close to the trunk, tearing bark, or leaving stubs can cause damage.
3. Physical damage: Hitting or bruising trees with machinery or tools can cause wounds, allowing disease entry points.
4. Inadequate support: Failing to provide support for trees that need it can lead to branch breakage or tree collapse.
5. Over-watering: Excessive watering can cause root rot, nutrient deficiencies, or other problems.
6. Under-watering: Insufficient watering can lead to drought stress, reduced growth, or increased pest susceptibility.
7. Poor soil management: Compacting soil, neglecting soil testing, or failing to address nutrient deficiencies can harm trees.
8. Chemical misuse: Overusing or misapplying pesticides, herbicides, or fertilizers can harm trees, soil, or beneficial organisms.
9. Inadequate pest and disease management: Failing to monitor or address issues promptly can lead to infestations or infections.



10. Neglecting tree training: Failing to train trees properly can lead to structural issues, reduced yields, or increased disease susceptibility.

Bad Touch techniques like Over-tilling or excessive soil disturbance, Excessive water usage or flooding, Over-fertilization or chemical misuse, Pesticide overuse or improper application, Monoculture farming practices, Neglecting crop rotation and soil replenishment, Inadequate irrigation management, ignoring soil erosion or degradation, Disregarding integrated pest management, Contaminating soil and water sources etc. Conversely, "bad touch" practices can lead to Soil degradation and erosion, Water pollution and waste, Reduced crop yields and quality, Increased pest and disease pressure, Negative environmental impacts etc

Sound Touch concept in Agriculture:

Music Sound in agriculture, also known as "agricultural music" or "farm music," refers to the use of sound and music to improve crop yields, plant growth, and farm productivity. Research has shown that certain types of music and sounds can have a positive impact on plants, including Increased growth rates, Improved seed germination, Enhanced fruit production, Boosted plant immunity, Reduced stress and disease susceptibility.

Some applications of music for plants:

- 1. Greenhouse Music:** Playing music in greenhouses to enhance plant growth and development.
- 2. Field Music:** Broadcasting music in fields to improve crop yields and reduce stress.
- 3. Plant Nurseries:** Using music to promote healthy seedling growth and development.
- 4. Hydroponics:** Applying music to hydroponic systems to enhance nutrient uptake and plant growth.
- 5. Vertical Farming:** Integrating music into vertical farming systems to boost crop yields and reduce stress.
- 6. Agricultural Research:** Studying the effects of music on plant growth, development, and productivity.
- 7. Farm Radio:** Broadcasting music and agricultural information to farmers and gardeners.
- 8. Plant Therapy:** Using music to aid in plant recovery from stress, disease, or pests.
- 9. Smart Gardening:** Developing smart gardening systems that incorporate music for optimal plant growth.
- 10. Space Exploration:** Researching the potential of music to support plant growth in space exploration and colonization.

Some popular music genres and sounds used in agriculture includes Classical music (e.g., Mozart, Beethoven), Nature sounds (e.g., birdsong, ocean waves), Instrumental music (e.g., piano, guitar), Ambient electronic music, Vibrational frequencies (e.g., tuning forks, singing bowls). Farmers and researchers use various methods to apply music in agriculture with Speakers



in greenhouses or fields, Sound-emitting devices attached to plants, Music played during irrigation or fertilization, Vibrational frequencies applied directly to soil or plants etc.

*Good Luck *