

Fifty-Three Uses of Biochar

Farming

Soil amendment

1. Carbon fertiliser
2. Compost
3. Substitute for peat in potting soil
4. Plant protection
5. Compensatory fertiliser for trace elements

Livestock farming

6. Silage agent
7. Feed additive / supplement
8. Litter additive
9. Slurry treatment
10. Manure composting
11. Water treatment in fish farming

1 % Biochar for Livestock Feed

Increases energy efficiency of digestion, 77% less dysenterie, 62% animals are calmer and balanced, 77% less odor in barns
 Observation: cells in milk decreased, less streptococcus, less rumen ulcer, better fitness, adsorption of gram positive bacteria (botulisme), pesticides, herbicides, reducing odors, fixation of nutrients, and improvement of barn climate.

Biogas Production

12. Biomass additive
13. Biogas slurry treatment

5 - 10 % BC in litter

Reducing humidity and odors (84%), fixation of nutrients, reducing ammonia and methane emissions, ameliorates hygiene, hoof infections

Poultry farms

3 days after beginning of treatment with fermented biochar, vermifugation of round worms took place

Cow farm

One year after beginning administration; cows did not need any veterinary treatment during the first year of administration

Swine farms

Pigs did not need any more antibiotic treatment during the first six months of administration

Chicks

The mortality rate decreased in a chicken farm, while at the same time a high and continual increase in weight of 90 - 100g per day was observed

Decontamination

Decontamination of soil and natural water

14. Soil additive for soil remediation
15. Highly adsorbing, plantable soil substrates
16. A barrier preventing pesticides getting into surface water
17. Treating pond and lake water

Waste water and sewage treatment

18. Active carbon filter
19. Pre-rinsing additive
20. Soil substrate for organic plant beds
21. Composting toilets

Treatment of drinking water

- 22. Micro-filters
- 23. Macro-filters in developing countries
- 24. Exhaust filter
- 25. Controlling emissions
- 26. Room air filters

Industry

Building material

- 27. Insulation
- 28. Air decontamination
- 29. Decontamination of earth foundations
- 30. Humidity regulation
- 31. Protection against electromagnetic radiation (“electrosmog”)

Textile industry

- 32. Fabric additive for functional underwear
- 33. Thermal insulation for functional clothing
- 34. Deodorant for shoe soles

Food industry

- 35. Conservation of food
- 36. Digesting helper

Wellness

- 37. Filling for mattresses
- 38. Filling for pillows

Radio protection

- 39. Shield against electromagnetic radiation (microwaves, TV, Netzgeräte, computer)

Effects of Biochar-Plaster

- Regulation / buffering of humidity
- Insulation
- Noise protection
- Toxin binding (solutes, VOC)
- Blocking of high frequency radiation
- Low electrostatic charging of air
- Conservation of wood
- Reduction of dust
- Deodorising
- Aesthetic
- Anti-bacteriological, fungicide (repellent)
- Air cleaning
- Increase of redox potential
- Emission of far-infrared radiation

Regulation of humidity, anti-bacteriologic, adsorption of ethylen

Further uses

Industrial materials

- 40. carbon fibres
- 41. plastics

Electronics

- 42. Semiconductors
- 43. batteries

Metallurgy

- 44. metal reduction

Cosmetics

- 45. Soaps
- 46. skin-cream

47. therapeutic bath additives

Paints and colouring

48. food colorants

49. industrial paints

Energy production

50. Pellets

51. substitute for lignite

Medicines

52. Detoxification

53. carrier for active pharmaceutical ingredients

Source:

For all information in this document – ithaka institute – Hans-Peter Schmidt – www.ithaka-institut.org