

Name of Technology	Effect of adding charcoal to food on immune function and bad odor	Life Science
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Key words	charcoal, nutritional supplements for animals, stimulatory effect on immune function, odor	

What kind of technology is this?

## Outline

**We studied methods for adding powder charcoal (waste charcoal) to animal food and examined its stimulatory effect on immune function.**

Charcoal in Iwate prefecture is mainly charcoal, which has been utilized in various ways such as moisture absorption and odor reduction as well as for fuel, because of its excellent adsorbing capacity due to its highly porous structure and the presence of functional groups. In our laboratory, the effect of addition of charcoal to food has been examined. We examined the effect of charcoal-supplemented rat diet on blood composition, immune function and bad odors of floor material.

Major findings: No constant effect was observed on bad odors of floor mat etc. It was found that phagocytosis, a natural immune function, tended to become more active, though this depended on the amount of charcoal added. Furthermore, the phagocytotic activity per neutrophil obtained from the density of neutrophils in a blood smear specimen and the number of leukocytes also tended to increase. No significant effect was observed on opsonization. Also, anemia was induced depending on the amount of charcoal added.

These results revealed that the addition of appropriate amount of charcoal to rat food might stimulate natural immune functions. In future, it is necessary to examine the cooperative action of charcoal with other supplement candidates.



Charcoal-added rat food



Residues in the stomach

What are its applications?

- Charcoal may be used as an animal food supplement for activating immune function. It is, however, necessary to take care as to the amount provided.

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