

AMBASSADOR COLLEGE

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DIATOMACEOUS EARTH

Diatoms are microscopic, single-cell algae. The majority are exceedingly minute and one with a length of 1/200 inch is well beyond the medium size. They are known to occur in both fresh and sea water.

Both in fresh and sea water there are great numbers of free-floating diatoms which at times make up the main bulk of the minute sea life. The type that we use are fossil diatoms. The siliceous skeleton wall that remains after the death of the diatom has formed deposits generally a few feet in thickness. Most of these deposits were formed during the Noachian Flood.

Several fine deposits of this material have been made available to us with arrangements to procure as much as needed. We are using it at Ambassador College and feel it is very useful and helpful.

The industrial uses of diatomaceous earth are varied. It is used as insulation of boilers, refining of sugar, and in filtration processes. The oldest and best-known commercial use is that of a very mild abrasive in metal silver polish and toothpaste. It is also commonly used in paints and face powders. The amount used in polishes has increased greatly in recent years with diatomaceous dust as the base of silicon polishes for automobiles. One recent discovery is to use this material as a glaze for covering all types of pottery, especially the better grades.

As an insecticide, diatomaceous earth at Ambassador College is used as a means of protecting seeds against insects in grain storage (grain weevils), to destroy chicken lice, blue bugs, cattle lice, flies and ticks. It can be used for dusting fruit trees for various insects, for controlling tree bores in pine trees, and many insects in garden crops. The material gets its "killing" power as an insecticide by two methods: 1) Insects, worms, etc., breathe through the pores of their skin. The dust is so fine that it simply plugs these pores which causes the insect to suffocate, dehydrate, and die; 2) Fossil diatoms, when finely ground, have an abrasive action. Most insects and bugs have jointed appendages. When the material is applied, it enters these joints and dismembers them by the abrasive (cutting) action.

Diatomaceous earth is not poisonous and can be used on the soil as a fertilizer. Over a million tons are used annually in the United States alone. This material has great importance in agriculture as an insect repellent, a fertilizer, and moisture control in grain storage.

Application

There are three major ways natural diatomaceous earth (KMP) is used at Ambassador College:

1. As a fertilizer it can be applied on fields at the rate of 300 to 500 pounds per acre depending on how acid the soil is. It is high in phosphate, potash and has some nitrogen.
2. You may use it on all types of lice, ticks, blue bugs, and many kinds of worms and other insects as an insecticide. If used as a dust, it must be kept in a very dry place. It can be applied as a dust at the rate of 20 to 30 pounds per acre or as a spray using 20 to 25 pounds in 100 gallons of water. For best results, it is essential that the material be finely ground.
3. It is also very helpful in controlling moisture and insects in grain storage. Simply apply as the grain is being put into the storage bin at about seven pounds (KMP) per ton of grain.

When spraying this material as a fertilizer or an insecticide, be sure that the sprayer has a good agitator in it because the powder tends to settle out. KMP dust can be used in all types of orchards and groves, on fields, and gardens.

When KMP is used as an insecticide, applied in the dust forms, there is a problem of getting it to stick to the insect and the plant. Usually this problem occurs when the dust is not completely dry. There are instruments available on the market which produce an electrical negative charge which causes the material to stick and cling. Everything about us has a positive charge so the negative charge produces a magnetic effect. This instrument can easily be mounted on field or hand dusters. Brand names and availability may be provided if desired.

On the market, diatomaceous earth costs over twenty cents per pound. We can make it available from the Texas College at three cents per pound. This will just cover costs. It may be picked up at the college or we can ship it by rail or truck if the individual pays freight charges.

KMP