AMBASSADOR COLLEGE

Agriculture Department

AC RANCH Big Sandy, Texas 75755 P.O. BOX 927

Ph. 636-4311

YEAST FOR BACTERIA GROWTH

The Use of Non-debittered Brewer's Yeast in Soil Bacteria Reproduction

Natural yeast contains many enzymes and unidentified vitamins needed by living things. This starter yeast is made by fermentation of waste sulfite liquor from paper pulp.

The yeast becomes a non-debittered Brewer's yeast after it has fermented grain (converted sugar or sugar derived from starch into alcohol by the many enzymes of yeast). This yeast, filtered from beer or ale after fermentation, is high in protein (about 50%). It is filled with unidentified vitamins and enzymes which remain very active.

In drying or debittering the yeast it is commonly heated sufficiently (pasteurized) to kill the yeast cells and destroy the fermenting power so it may be used as a food supplement. Without this debittering or pasteurization process fermentation might be produced in the digestive tract, causing severe indigestion if used as a food.

De-bittered yeast is the commonly purchased dried Brewer's yeast which has had the life taken out of it. Some types cause a bitter flavor and so they are killed by heat. Often it is also fortified with vitamins. Because the heating process kills the life, it will not work in rapid reproduction of your bacteria culture for lack of the needed enzymes. Therefore, only non-debittered Brewer's yeast works!

Why are these enzymes important? These enzymes are produced by the yeast, and released for the feeding of bacteria. Not only does the bacteria feed on these enzymes, but it thrives and reproduces dozens of times more rapidly on the fermentation products these yeast cells cause. The

enzymes of yeast convert the sugar or molasses you put into your bacteria mixture into alcohol. They change an organic substance like sugar into a more simple substance the bacteria can directly use. The sugars are oxidized to CO_2 by the bacteria, causing bubbles to rise, a gassy fermentation, and a foul odor. This is one way you can tell if your bacteria is alive. Be encouraged and realize your bacteria is almost ready for application when bubbles rise, cloudy or gassy fermentation takes place and there is an offensive odor.

For best results from a properly fed culture, you must use an active non-debittered Brewer's yeast. It helps food become available in the right amounts for use by the bacteria. Man does not yet understand all that is involved.

Where can you get it? Non-debittered Brewer's yeast can be ordered from: St. Louis Brewer's Yeast Corp.; P.O. Box 65; St. Louis, Missouri 63119.

Cost? The smallest amount available is 50 pounds at 30¢ per pound. Amounts of 100 pounds and larger are presently 15¢ per pound (you pay the freight in both cases). If you would like smaller amounts of yeast, you may order from: Ambassador College; Agriculture Department; Big Sandy, Texas 75755. A donation of 30¢ per pound will help defray costs.

AGRICULTURE DEPARTMENT

NBY