

MICROBIAL TECHNOLOGY



How Does The Bacteria Stabilization Process Work?

Bacteria reproduce by a process called binary fission - one cell divides and becomes two. Some can reproduce at a very rapid rate under proper conditions. If food and moisture are adequate and the temperature is right, certain bacteria can reproduce in as little as twenty minutes. In only 24 hours the original cell will have multiplied to nearly 51 million new bacteria.

Select bacterial cultures are grown in a medium. Upon inspection, Bacteria is transferred to sterilized biofermenters for a growth period. Following a quality check to verify purity, the Bacteria is transferred to sealed and sterilized stainless steel production fermenters. Under proper pH control, sterilized sugars and oxygen will be fed to the bacteria. Throughout the cycle, the medium is sampled for quality and population growth parameters. All batches are tested to be salmonella free.

What Are Enzymes?

Enzymes are proteins that are produced naturally by plants, animals, bacteria, fungi and all other living things, and are absolutely necessary for life. They are catalysts that accelerate the rate of chemical reactions without changing themselves. Commercially available enzymes are derived from bacteria and fungi.

How Do Enzymes Work?

Enzymes work by breaking apart large complex compounds (substrates) into smaller, more readily absorbed nutrients that the bacteria can utilize. Enzymes from different sources have a specific temperature and pH range at which they are optimally effective, which is an important consideration when choosing an enzyme product. Enzymes are classified by the substrate they work on. For example, proteases work on proteins, breaking them down into amino acids and

peptides. Cellulases break down cellulose, the major undigestible component of plant cell walls, into simpler sugars. Only very small quantities of enzymes are needed to change very large quantities of substrate.

Are Enzymes Stable?

To be effective, enzymes need to withstand storage, and acidic and organic breakdown. Our enzymes are produced using optimum microbial strains and technology, and then stabilized using patented processes. When blended, the our enzymes are not affected by extended storage, oxidizing compounds such as vitamins and minerals, or digestive conditions.

How can different enzyme products be compared?

With many enzyme products offered on the market, the concern for accurately comparing the quality of these products is important. Unfortunately, there is currently no standardized way of testing or expressing enzyme activity. There seems to be as many enzyme testing methods as there are enzyme manufacturers, making it impossible to directly compare products. Some products may list the enzyme in very large numbers, making it appear highly concentrated, but keep in mind that the number is relative to the Quality.

Liquid and powder info?

In the past, biological products have come in 2 forms, liquids & powders. The important thing to remember about biological products is that you are dealing with live organisms. When bacteria eat & reproduce in non-laboratory conditions (specific pH, temperature, & food source), each generation becomes less and less effective. Most of the time, manufacturers add a food source to both liquid and

dry products. The food source is most often a cereal grain of some sort. The patented process allows us to have a shelf life of a minimum 2 years.

Why combine bacteria and enzymes, why not bacteria only or Enzyme only?

In the past, biological products have come in a few forms; bacteria formulations, enzyme producing bacteria formulations, and enzyme only formulations.

Our enzymes are produced using optimum microbial strains and technology, and then stabilized using patented processes.

A crash course in microbiology shows that all bacteria produce their own specific enzymes to aid in the digestion of the food source that Mother Nature created them to eat.

Enzymes break down a food source into a form that the bacteria can eat. By using a “bacteria only” or “enzyme producing bacteria” (remember that all bacteria produce enzymes), you are counting on the bacteria to produce their own enzymes to do the job that they were bought to do. Unfortunately, since the majority of products are not stabilized, you are asking the ineffective strains to perform a task that they simply can’t handle.

By using an enzyme only product, you simply are not “finishing” the job. Enzyme only products simply convert food sources into simpler forms of food without digesting them completely. Enzyme only products usually only pass the problem down the line to cause substantially larger problems later.

By combining the proper bacteria strains with the appropriate enzymes, AXSYS DIRECT MFG. formulas have an immediate action. This immediate digestion enables our bacteria strains to clean up food sources, where they continue to eat until the food source is gone. It is important to remember that the “food source” is usually the problem. So you need **Bacteria and Enzymes** to do the job right.

CONTACTS US

AxSys Direct Mfg

4523-97ST
Edmonton, AB
T6E5Y8
CANADA
Phone 1-866-543-5276
Fax 1-780-434-5906
e-mail info@simplyboss.com

sales contacts for specialty chemicals

Toll free order desk 1-866-543-5276
e-mail orders@simplyboss.com

Brian Charman
1-403-819-1942
e-mail bcharman@shaw.ca

Richard Boissonneault
1-780-718-8334
email rich@SimplyBOSS.com



www.SimplyBOSS.com