

EMD is the market leader in signal molecule technology, rhizobia selection and inoculant formulation. Over 110 years of experience in researching and developing technologies that improve plant production paved the way for *Optimize 400*.

***Optimize 400* is the result of three recent innovations in:**

1. *LCO Promoter Technology*[®] advancement

Recent breakthroughs in research have led to a more effective delivery mechanism for our patented *LCO Promoter Technology*. This ISO 9001 certified system maintains the optimum level of LCO in the product while allowing for an associated rate reduction in *Optimize 400*.

2. A new inoculant formulation that yields higher rhizobia numbers per unit volume.

A. Our leadership position in developing liquid inoculants has resulted in a formulation that meets strict quality control guidelines and:

- supports the growth of our elite *Bradyrhizobium* microbes
- exceeds our minimum population of the rhizobia while allowing further growth in the package
- maintains these numbers over a two-year use cycle

B. The formulation of *Optimize 400* pre-conditions our elite rhizobia. This pre-conditioning leads to a competitive rhizobial product that enables its ability to survive on the seed.

C. EMD's ISO 9001 Quality Assurance ensures that, at each state of the production process, pre-defined criteria must be met or the production run is aborted.

3. Rhizobia selection that provides superior rhizobial vigor and survival - generating superior nitrogen fixation.

Our elite *Bradyrhizobium japonicum* strain selection program leads to strains that are (read closely) "infective" (not ineffective), effective and efficient fixers.

A. "Infective" is the ability of our strain to form nodules with soybeans

- *LCO Promoter Technology* enhances our elite strains because root hair formation is enhanced, ensuring their efficiency at producing nodules

B. Effective is the ability of the nodules that are formed to fix nitrogen.

- our elite strains in *Optimize 400* are:
 - those that have proven to have high rates of fixation
 - can withstand stresses that the soybean plant faces during its growth
 - stay active during the critical stages of soybean growth.

To simply have a strain that fixes nitrogen is unacceptable. Our method ensures that *Optimize 400* provides efficient nitrogen fixation. This assures performance in the field.

It is the combination of these three technological advances that ensure soybean growers continue to receive the benefits of enhanced roots, excellent plant growth and extraordinary ROI while retailers gain the benefit of "Treatability" with *Optimize 400*.

For more information on inoculants and *Optimize 400*, call (800) 558-1003, visit www.Optimize400.com or contact your local EMD Crop BioScience representative.

