

## Benefits of Using ESN® Technology on Grass Forages/Pastures

**ESN technology protects your nitrogen (N) investment from loss mechanisms, ensuring your grass crop gets N when it needs it most. ESN goes beyond traditional nitrogen by allowing you to:**

- Maximize Yield – ESN has proven to increase yields by providing a continuous N supply when crops need it most.
- Maximize Flexibility – ESN can be blended with other dry fertilizers and reduce the number of required applications.
- Maximize Safety – ESN won't burn your crop like urea or ammonium nitrate.
- Convenient Application Window – ESN can allow more flexibility in nitrogen application timing.
- Protect the environment and qualify for US Government Incentive Payments.

## Grass Crop Use Recommendations

**ESN's controlled nitrogen release provides flexibility in nitrogen application timing. It can be used to enhance nitrogen-use efficiency and crop performance in a variety of cultural practices. The options below give general guidelines for preferred use in grasses under different nitrogen-management strategies for southern geographies.**

### High Management: (High Quality Hay Production)

- Apply N at green-up as a 50:50 blend of ESN and soluble N (such as urea or ammonium sulfate) to supply sufficient soluble N for the first hay cutting and ESN for the N needs of the second cutting. This will supply the nitrogen needs of the grass crop through the second cutting and ensure sufficient immediately available N to maximum the first cutting.
- Between the second and third cuttings, apply N up to the needs of third and fourth cuttings as a blend containing 75-90% of the N as ESN. If conditions are conducive for optimal grass production, use higher rates of nitrogen. If conditions are excessively dry, consider delaying application until more favorable conditions exist. The later into the season, the lower the percentage of ESN should be in the blend.

### Low Management: (Single Application For Entire Growing Season)

- In some instances, producers choose to limit nitrogen applications to grass crops to a single application at green up to provide season long nitrogen for the crop. In this situation, ESN should be used in a blend with a soluble nitrogen source in which ESN comprises 75-90% of the blend. This will allow for continuous availability of N through the growing season.

### Nitrogen Management In Forages Containing Legume Mixtures:

- Some producers incorporate the use of legumes into their grass crop system to provide higher quality grasses. Generally, the use of soluble nitrogen is not recommended or is highly limited in these systems, as the legumes will not produce their own nitrogen if soluble nitrogen is available. ESN could be added to these systems to increase grass production, without sacrificing the nitrogen fixation of the legume, as ESN will be released in a controlled manner during the growing season.
- The addition of soluble nitrogen is not recommended in legume systems; however, N may be applied in the form of ESN. Apply ESN at a 50-75% of the recommended N rate for a non-legume forage at green-up to increase the yield of both the legume and grass crop.

### Nitrogen Management For Winter Forages:

- Apply ESN in a blend with soluble N for winter forage production, such as over-seeded ryegrass. ESN will provide nitrogen to the grass crop during the winter months during periods of mild temperatures, while protecting nitrogen from loss during cold periods. ESN should comprise 75-90% of the nitrogen source.

**Every type of nitrogen fertilizer is applied and handled differently. These general use recommendations for ESN are based on optimal growing conditions. Your specific conditions and goals should be considered to achieve best results.**

### ESN Marketing Representative:

