

SRN FOLIAR CHEMISTRY IMPROVES YIELDS

Foliar and granular applied Urea has been successfully used as a source of fertilizer nitrogen (N) in many crops. Interest in foliar feeding of Urea originated over 20 years ago in California USA.

The application of N to leaves was beneficial since high rates of granular N fertilizer applied to the soil appeared to contribute to salinity problems and to pollute ground water with nitrate.

Ongoing from this is Nitro 37 Liquid Smart Release Nitrogen (SRN), which had its beginnings in the early 80's. Nitro 37 SRN contains a unique smart release methylene urea nitrogen molecule. The methylene urea molecule is created through a special manufacturing process that utilizes UF chemistry. The proprietary chemistry leading to Nitro 37's formulation makes it the highest % smart release source (85%) and the most stable concentrated liquid nitrogen product. Nitro 37 was found to have the lowest salt index of any agricultural fertilizer. Salt index is determined by measuring the electrical conductivity of the fertilizer in a solution. Products with higher salt indexes have an increased tendency towards plant injury and reduced germination. In the soil, salts reduce the amount of water available to seeds and roots. SprayGro's Nitro 37 (NPK 37-0-0) foundation has a low biuret 0.00 to 4.60 salt index rating, which is extremely low, compared to other nitrogen sources such as Urea and Ammonium Nitrate (the base of most fertilizer blends) which have salt indexes of 75.00 and 104.70 respectively.

When applied as a foliar spray, Nitro 37 SRN coats the leaf tissue with a glossy clear film that lasts for weeks. It also penetrates the waxy layer of any leaf tissue. Nitro 37 SRN's molecule is held together by a strong methylene bond (CH₂) that will not release all of the nitrogen at once, but rather must be broken down one bond at a time. These properties allow the nitrogen to be slowly released through the effects of heat, hydrolysis, microbial activity and UV radiation. As this happens, nitrogen is released to the plant over a period of up to 36 days on the leaf surface and up to 8-10 weeks in the soil.

Nitro 37 SRN is extremely sticky and as it dries, it forms a coating on leaf and/or soil particles. This coating is impermeable to excessive rains or watering and will remain on the leaf or in the soil for future absorption. There is, the added benefit that Nitro 37 SRN also acts as a sticker/spreader and increase the adhesion of other technical materials.

Crop yield and cost are two major considerations for the farmer. With quick release nitrogen sources, an average of 25% to 40% is lost via volatilization, leaching to below the root zone and general run off into waterways. Unlike quick release nitrogen sources, Nitro 37 SRN will not volatilize.

SprayGro Liquid Fertilizers National Sales Manager, Mr Mike Bradley says "You used to fertilize the soil to grow the crop, now you fertilizer the crop".

In the past, vegetable crops simply couldn't get enough of the major nutrients through foliar application. "That's because applying too much nitrogen directly to the crop can damage it. You'll burn the tissue that will be marketed".

Leaf burn doesn't have to be a problem any more, says Mike "Our Nitro 37 Smart Release Liquid nitrogen fertilizer provides a controlled even release to the plant.

There is no stress, no phytotoxicity, you don't get a soft spike of vegetative growth at the expense of fruit production and not only do you use less nitrogen, it also lasts longer".

Field trials conducted by leading universities in the US and Europe show a residual nitrogen release of up to five weeks on the leaf tissue. These tests were conducted on major crops (such as citrus, apples, grapes and hops) and continued use on a broad variety of row crops (such as lettuce, spinach, broccoli, cantaloupes, celery, parsley and tomatoes). Nitro 37 SRN also improves leaf absorption of potassium and other nutrients. Field studies in Florida by large growers show a 60% increase in plant growth for parsley (weight) when Nitro 37 SRN was applied with a plant growth regulator. Its performance over urea and PGRs alone was 39% to 46%.

Yield from leafy crops like spinach can be significantly increased by foliar applications of Nitro 37 SRN. Best of all, by utilizing foliar methods, these increases can be accomplished while reducing soil nitrogen levels by as much as 30%. Parsley study conducted by a leading vegetable grower confirms that foliar applications of Nitro 37 SRN improved the economics of production by reducing the amount of N applied to 1/3 the rate of urea. Nitro 37 was applied at 3.4kg of N/Ha versus 10.4kg N of Urea. Parsley growth with Nitro 37 SRN had an increased yield of 39% the first cutting and 46% the second cutting. In combination with 220ml rate of a biostimulant the crop yield was increased 89% over urea. Confirming the sticker properties of Nitro 37 SRN.

In 2001 SprayGro released a full line of NPK SRN Liquid Fertilizers to suit every need. High nitrogen line Endurance 20-1-6, high Potassium – Vision 20-0-20, Nitro 11 HiK 11-0-15 and Balance 15-4-8.

Excellent results are being achieved with larger fruit size increases and an improvement in yield and quality. SprayGro SRN range is available in 20, 200 and 1000 litre containers, available through leading resellers.

For information phone SprayGro Liquid Fertilizer on 08 8447 7266.



Nitro 37 & Vision 20-20 may be safely applied during all stages of growth, including pre-bloom, pink bud, king bloom, full bloom and early nut.