



A REVIEW OF STRIP-TILL AND NUTRIENT BANDING

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The acceptance of no-till and other conservation tillage practices, including strip-till has increased rapidly in recent years. The most recent Census of Agriculture from the USDA reports that 173 million acres, or 62% of tillable acres in the U.S., utilize some form of conservation tillage practice. Strip-till, in particular is gaining more acceptance in parts of the country because it combines the benefits of both no-till and conventional tillage, while also allowing for the application of fertilizer. The application of fertilizer in a subsurface band decreases negative impacts to the environment and increases nutrient use efficiency; which both lead to increased profitability.

Runoff of nutrients from agriculture into rivers and streams is something many private and governmental entities are monitoring more closely than in years past. Recent research by Dr. Fabian Fernandez at the University of Illinois focused on combined aspects of crop yield, fertilization and tillage practices while also thinking of the impact to the environment showing a positive benefit to subsurface banding in strip-till. Dr. Fernandez states, "Although subsurface band applications may not increase yield, they could decrease phosphorus levels on the surface which could be an environmental benefit to reduce the potential of phosphorus runoff."

Dr. Tom Bruulsema¹ of the International Plant Nutrition Institute agrees the right place for phosphorus to be applied is, "In the soil, not on the soil." Strip-till machines have the ability to provide tillage and place fertilizer in the root zone in the same trip allowing growers to save time and reduce negative impacts on the environment. Dr. Bruulsema goes on to say that "facilitating the availability of the sources and equipment to get P fertilizer into the right place is an important contribution toward better crops – and better water."

Another benefit of the application of fertilizer in a strip-till systems is the increase in nutrient use efficiency by reducing nutrient immobilization, or "tie-up". Subsurface banding of fertilizer can help to reduce nutrient tie up because the nutrients do not react with surface residue and they will also come into contact with a smaller soil volume than surface applied broadcast applications. The 4R Nutrient Stewardship² initiative promotes "for phosphorous and potassium, nutrient efficiency is enhanced because the subsurface band lessens P and K fixation by limiting contact with the soil. In the concentrated zone there is enough phosphorus, for example, to overwhelm the clay, calcium and aluminum that could otherwise form stable compounds and reduce phosphorus availability to plants."

Strip tillage has many advantages when growers seek to reach maximum yield potential. The advantage of being able to apply nutrients in a subsurface band has the ability to help increase yield, increase nutrient use efficiency and decrease negative impacts to the environment. Having the ability to provide proper tillage and defined fertilizer placement in the root zone in the same trip, strip till systems are able to produce superior crops while saving time and money.

ABOUT THE ANDERSONS & SPECIALTY FERTILIZER PRODUCTS

At The Andersons, it is our goal to provide efficient and high quality products to assist growers in their pursuit to produce a sustainable and profitable crop. The Andersons' portfolio of specialty products are designed to feed, stimulate and enhance your crop's performance. The goal of these products is to mitigate risk, enhance profit, and protect your investment.

Applying a PureGrade[®] low-salt fertilizer in the strip is the most efficient way to fertilize high-yield crops. This fertilizer positioning reduces fertilizer tie-up, increases nutrient availability, and minimizes denitrification. PureGrade fertilizers are available in three different base grades: Diamond, GoldStart[®], and Premium. These grades provide varying orthophosphate content allowing growers to choose the product that best fits their fertility and investment needs.

The PureGrade product line is also accompanied by MicroSolutions[®] Micronutrients, Select Nutrients, and Soil Amendments. While N, P, and K are in the highest demand for crops throughout the growing season, they are not the only nutrients mandated. Other secondary and micronutrients are equally important for preventing or correcting soil deficiencies.

Contact The Andersons Plant Nutrient Group to learn more about the strong relationship between liquid starter fertilizer and strip tillage systems.



1. Dr. Tom Bruulsema and Dr. Scott Murrell "Nutrient placement in reduced tillage systems" www.croplnutrition.com
2. 4R Nutrient Stewardship. www.nutrientstewardship.com

