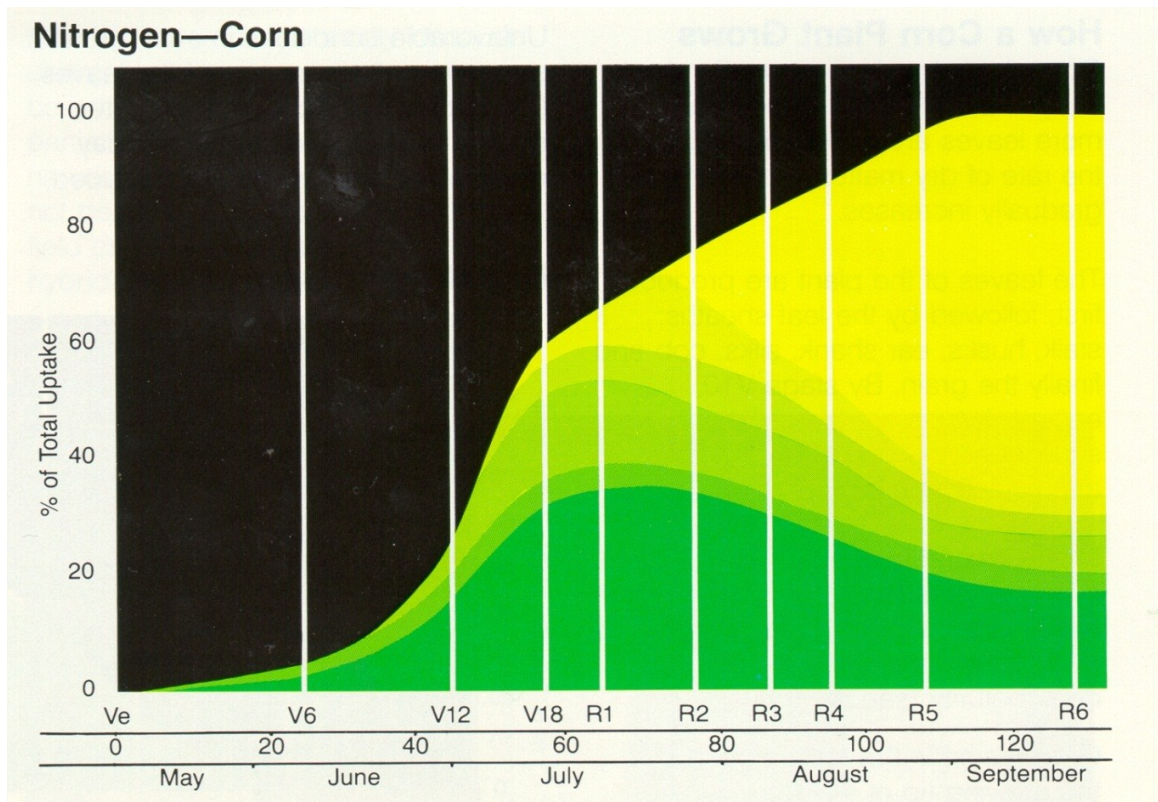


### Nitrogen Management Corn-on-Corn

Corn-on-corn acres have been increasing the past years, and with market prices as well as production outlook, many are looking to continue this rotation for their 2012 crop. A crucial factor to keep in mind when determining your crop rotation is management, and with corn followed by corn, this is even more critical. While many factors play a role in yielding a “successful” crop, intensive nitrogen management can tip the scale more than most. Without a good nitrogen management program for corn-on-corn in place, you may be leaving bushels on the table before the seed even goes in the ground. With the continuing changing prices for both the cost of nitrogen inputs as well as corn commodity prices, both economics and agronomics must play a role in your nitrogen application plan. When it comes to driving yield potential in this type of environment on your farm, the agronomics portion of the equation is what will move the mark. It comes down to managing risk.

While research has shown that continuous corn will typically yield approximately 10% less than corn followed by soybeans, management decisions can overcome many of these yield barriers. A large amount of research suggests an additional application of between 30-50# of additional nitrogen to be applied in a continuous corn program. This is a good starting point, but one must also consider the nitrogen history on their fields, soil type, soil temperature, seed hybrid selection, planting population, nitrogen source, time of application, as well as split applications just to name a few. An important factor to keep in mind is that corn requires approximately 1.2# of nitrogen for each bushel produced, but again the previous mentioned factors must come into consideration. Below is a chart that illustrates the variable demand of nitrogen depending on the growth stage of the corn plant.



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Since the amount of nitrogen the corn plant requires during its life cycle is variable, a management practice that has proven very successful is split application of nitrogen. This is also a great tool to manage nitrogen loss through denitrification or leaching, which can be a costly loss. Rather than making one pass across the field with your nitrogen application, space it out throughout the season. While not all options are feasible to every operation, it is crucial to see which ones would be workable for your farming operation in order to make continuous corn production as successful as possible. A great way to start your nitrogen program is with your base nitrogen application. Numerous products such as urea, ammonia and UAN are great options for this. This application can be made in the spring or the fall. Also consider using a nitrogen stabilizing product such as N-serve, Instinct, or NutriSphere. A slow release nitrogen product such as ESN is also a great tool to consider. While starter fertilizer is a source to gain additional nitrogen for your corn crop, this also provides the plant assistance with emergence.

A side-dress application of 32% or 28% is an excellent way to add additional pounds of nitrogen as the corn is vigorously growing during its vegetative stages, requiring lots of energy from the plant. These growth stages are when the plant is determining ear girth and length, so it is crucial to continue to push for optimum yield potential. Foliar applications at this time are also an option, using CoRon or Gradual-N. With both these products you also gain an important micronutrient, Boron. These products have also shown a yield advantage when applied at tassel. Many growers have seen a yield advantage of applying fungicide to their corn fields, especially on corn-on-corn, at tassel time. Adding a foliar nitrogen application at this time is as simple as adding a little more product to the tank and the gains can be significant. The nitrogen at this time can aid in canopy penetration as well as product uptake into the plant.

With so many options in your nitrogen management plan, it can easily become an overwhelming and daunting task to decide which option will work the best for your operation. Utilize your Central Valley Agronomist to help you plan what the best options for you are. Their agronomic knowledge, product knowledge, as well as knowing the history of your fields can be a great advantage.