

## STEVE SAGARA JOINS WAS/NK SEEDS



Western Ag Services is pleased to announce the appointment of Steve Sagara to our Northern California sales staff. Steve and his wife, Denise, live in Esparto, California, west of Woodland.

Steve has had extensive row-crop farming experience over the past thirty years specializing in tomatoes, corn and sunflowers, as well as tree experience with almonds. Steve also operates a laser leveling business.

Steve will be responsible for the promotion, sale and distribution of NK brand alfalfas, corns and sorghums north of Sacramento to the Oregon border.

Please join us in welcoming Steve to the seed industry.

## ALFALFA FERTILITY

Many growers view alfalfa as a soil-building crop. This may lead to overconfidence if fertility aspects are ignored. A healthy alfalfa plant will provide a reservoir of nitrogen for its own use along with residual N for subsequent crops. However, based on a per acre, ten-ton yield and a three-year rotation (30 tons of hay), alfalfa will remove 420 pounds of Phosphate, 1950 pounds of Potash, 300 pounds of Sulfate Sulfur, 900 pounds of Calcium, 180 pounds of Magnesium, 4 ½ pounds of Zinc, 9 pounds of Manganese, 7 pounds of Iron, 4 pounds of Copper and 4 pounds of Boron. Also, it takes 1900 pounds of Nitrogen (which the plant nodules may have a hard time keeping up with). These levels may exceed the nutrients available in the soil and deficiencies could result if no fertilizer is applied.

Soil testing is the most reliable method for deciding nutrient deficiencies. The test results will suggest the proper types and amounts of fertilization needed. A soil test evaluates what is in the soil and enables the crop consultant to calculate how much the crop will need based on the projected yield of a crop.

## CORN GERMINATION AND EARLY GROWTH

Western growers find that planting into the hot soils of May can be a challenge, given how rapidly soil moisture escapes in the heat. Let's take a moment to review a few basics of seed-soil interaction.

A seed imbibes water from the soil that surrounds it, initially through the embryo. This process takes place twice as fast in soil holding 100% of its moisture capacity. To achieve 100% capacity, a field is flooded, then allowed to drain naturally, which leaves the soil matrix filled with the water held in adhesion, along with some oxygen in the larger pores. This is the ideal condition for a seed.

A seed must take up 50% of its weight in water to trigger the growth process. The radicle, or seed root, emerges from the seed first, followed by the sheath-like coleoptile, which penetrates upward to the soil surface on the elongating mesocotyl, or seed stem.

## N91-R9

This silage hybrid has gained quick recognition as a high-yielding, dependable 110 day silage corn. N91-R9 topped the Tulare County Farm Advisor trial in 2001 as well as yielding well in NK trials. Plant this hybrid early for best results.

## STUNT UPDATE — MONITORING CORN LEAFHOPPERS

Western Ag Services is cooperating with the University of California on a corn leafhopper monitoring program. We have put sticky cards at two cornfield locations: the Richard Borges Farm west of Tulare and Johnny Martins west of Hanford.

Corn leafhoppers carry the corn stunt disease which did a lot of damage to silage corn last year in the Southern San Joaquin Valley. The late planted corn (after June 15th) was hurt the worst. The sticky cards will be read and changed once a week throughout the growing season to check on leafhopper numbers.

Here are a few suggestions to cope with these corn leafhoppers:

1. Plant early (a lot of corn has been planted already). Push hard to get the corn planted before early June.
2. Don't stress the corn for water. Do an extra good job of irrigation.
3. Don't limit potash uptake by the plants. Potash builds enzymes that fight off insects and diseases, as well as builds healthy, sturdy plants. Keep all nutrients in balance.
4. Consider systemic insecticides. Check with your PCA or Farm Advisor on what, when and how to use them.

## PLANTING CORN ON SALTY GROUND

Saline soils can provide a special challenge to corn seed and seedlings. Both are far more vulnerable to salty conditions than established plants.

Two problems arise in these soils: salt concentrations that are high enough to be toxic and the salt's drying effect. When the salt content measures 1.4 millehmhos on an EC<sub>e</sub> test—for electrical conductivity of the soil paste—corn seed germination can be severely hampered or even blocked.

Salt concentrations are highest at the soil surface and decrease with depth. Nitrate, chloride and sulfate salts of calcium, sodium, potassium and magnesium all contribute to saltiness. Fertilizer and manure applications that add in ammonia, NH<sub>3</sub>, can also increase the salt load, along with certain chemical herbicide and insecticide salts. Heat can be a factor as well, by increasing salt activity around the seed.

Growers use several techniques to clear salts out of the seed zone. Irrigation can move salts below the seeds. In medium-textured soils, 6" of flood irrigated fresh water will usually move salts down 12". Furrow irrigation can move salts to the sides of the seedbeds. Salts will follow the wetting front. Some growers plant in the furrow. Others plant deeply, below the heaviest salt concentrations, then knock the tops off, allowing the seeds to germinate better in wetter soils.



Distributor for Syngenta Seeds NK Brand Products in California, Arizona and Western Nevada

8105 North Locan • Clovis, CA 93611

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## NEMATODES AND GOPHERS ON CALIFORNIA AND ARIZONA CROPS

Although stem nematodes are credited by many for being the number one alfalfa destroying nematode in California and Arizona, Doug C. Anderson, nematologist and owner of Nematodes, LTD., Selma, California, says northern rootknot nematodes cause the major crop damage in his area. Doug tests for all kinds of nematodes, rootknot (*Meloidogyne* sp), Stem (*Ditylenchus* sp), stubby root (*Trichodorus* sp), lesion (*Pratylenchus* sp), spiral (*Helicotylenchus* sp), dagger (*Xiphinema* sp) and pin (*Paratylenchus* sp).

There are four species of rootknot nematodes: *Meloidogyne hapla*, (northern), *M. incognita* (southern), *M. javanese* (javanese) and *M. aranaria*. Of these the northern is the chief culprit. The good news is that researchers at the WSU Prosser Experiment Station have found that Trudan 8 and Sordan 79 reduce and kill northern rootknot nematodes. Lesion nematodes are also easily reduced by these "non-host" plants. Piper sudangrass and other sorghum/sudangrasses, allow them to flourish.

California and Arizona growers who find rootknot nematodes killing alfalfa crops early and injuring other crops, can grow reliable nutritious summer hay, greenchop or pasture with Trudan 8 and Sordan 79 and have nematode populations in the soil reduced.

These two varieties have the added benefit of cleaning up your fields of pocket gophers.

## WATCH OUT FOR CUTWORMS

Although most corn fields will not have cutworms, it is a good plan to look for them and apply controls where needed.

Typically, the female moth lays its eggs on annual weeds such as chickweed, shepherd's purse and black mustard. They like the low spots in the field and heavy soils. The larvae typically hatch out anywhere from fall to early spring and begin feeding on available vegetation. In California, black cutworms (*Agrotis ypsilon*) over-winter either in the pupal or larval stage.

Keeping fields clean of weeds will help eliminate this pest, especially if weeds are removed at least 10 days before planting. Young larvae will die from lack of food before young corn plants emerge as their next meal.

If the corn is already up and growing, examine at least 20 plants in at least five areas of the field. At this time, if you notice 3% or more plants cut off (this species has a pernicious habit of cutting off

plants) or pierced with holes, and you can still find the worms (larvae), you probably will want to use an insecticide. After the corn reaches the 3-5 leaf stage (usually 6" + tall), the worms don't bother the corn anymore.

## SOME SILAGE CORN FIELD RESULTS FOR 2001

### N8214

"N8214 was my best corn this year. We planted N8214 because it can go for either grain or silage. The dairymen were real happy with the quality of the corn. The chopper guy said this was good corn." Yield: 32 tons/acre @ 70% moisture.

*Tommy R. Avila - Hanford, CA*

"N8214 just kicks the other corns on our farm. We're happy with it. It's our best. We've compared it to other varieties, it always comes out on top." Yield: 28 tons/acre @ 70% moisture.

*DeCraemer Farms - Tulare, CA*

"I like the uniformity of this hybrid and it has good grain content. When you cut the silage, you can see the grain. It cuts easy and chops up well. The cows clean up the mangers." Yield: 30 tons/acre @ 68% moisture.

*Virgil Kronberg - Hilmar, CA*

### 4693

"The corn was great. One field averaged 36 tons/acre. That's the best that ground has ever produced. We are very happy with it. Our overall yield was 30 tons/acre on a variety of soil types. It had a lot of grain." Yield: 30-36 tons/acre.

*Mel Delin Dairy (Ray Souza & Mario Gois) - Turlock, CA*

"That 19 acre field of 4693 was my best corn. It had some tremendous yields for that poor ground. I was real happy with it." Yield: 32 tons/acre @ 70% moisture.

*Bobby Kukenbaker - Riverdale, CA*

"That field was even from one end to the other. This is the best yield I've ever gotten. The corn was in the heavy dent when we harvested. We like the ear size. It should have been harvested a couple of days earlier, but it was green to the ground." Yield: 36 tons/acre.

*Lonnie Foster - Pixley, CA*