

NEWS FROM VERDE-CAL™

July / August 2007
Issue 2

Products of **AQUA-AID, INC.**



Miller's Miscellaneous

Feedback regarding the addition of Aqua-Aid® wetting agent has been tremendous. Thanks to all of you who have passed along positive feedback. Aqua-Aid has been a very simple addition, but a very critical one in regards to the performance of VERDE-CAL™ products. Without it, it is very difficult to penetrate the soil profile. Regardless of the soil type, it is very important to get thorough "conditioning"

of the whole profile. By conditioning, I mean the release of essential nutrients and the balance of essential nutrients. With this, comes better nutrient uptake and utilization by the plant, better overall health and stress resistance. I have seen tissue tests of the leaves, and the proof is there. More consistent utilization of essential nutrients by the addition of available/soluble calcium. Some say this

leads to better disease resistance. Many superintendents have seen this, especially with Dollar Spot control. Rapid Blight at the time of fall over-seeding has been greatly reduced by the addition of VERDE-CAL G rather than a fungicide. 12 lbs. per 1000 ft. sq. is the rate for this. It is all good news, and we appreciate the great feedback. Keep up the good work and sales!



Aerification Time! Seeding, Fall Recovery. . .

It seems like every year we write the same thing regarding aerification and the beneficial use of VERDE-CAL products. However, it seems as though each year passes by and aerification starts sooner than the previous year. Maybe this is because the new grasses withstand heat stress better. Maybe it is because recovery time is longer for turf if you start the process earlier. Regardless, we want you to be ready to include VERDE-CAL products with this very necessary

management practice. Especially with inter-seeding, over-seeding or re-seeding/sprigging your greens/fairways/roughs. The use of VERDE-CAL Products can make this recovery or re-establishment period run and progress much smoother. It is the available nutrients that will have a big effect on the new turf. Better uptake results in better stronger turf. Quicker establishment is critical since this is a "one chance" situation to bring things into playable condition before either the snow

birds arrive, or winter conditions set in. Remember too, when using quick release products, it is very important to include the minors as well. The very important minor elements are scrubbed out of the soil by the nitrates, and the result is a weaker root system. VERDE-CAL K, K^{PLUS}, and NKG are good fits here along with complete fertilizers you also have. Keep a good balance of all the key nutrients to ensure the best results for your property.

Special Interest Articles:

- Miller's Miscellaneous.
- Aerification time! Seeding, fall Recovery...
- Success with VERDE-CAL G. Documented study in Texas.
- Carboxylic Acids. What you need to know and why.
- Lawn care update.

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General George C. Patton...

"If a man does his best, what else is there?"

Remember, we offer end user education programs. "More Than pH" and "How to Interpret a Soil Analysis". Please call for a outline of the program you would like.

Percent of Base Saturation

Optimal Balance	
Ca -	65 - 70%
Mg -	10 - 15%
K -	3 - 5%
Na -	.5 - 2%
H -	10 - 15%

More Aerification Information

The time to talk up the VERDE-CAL™ products is now.

Selling the benefits:

- 100% available calcium.
- 1 to 4 or 5 reduction compared to lime or gypsum.
- Less material to handle.
- Less labor to apply.
- Less inventory to deal with.
- Quicker to react.
- Very good results leaching high sodium and magnesium.
- Very good results raising pH quickly.
- Rates are either 5 lbs per 1000 ft. sq.
- 12 lbs per 1000 ft.sq to cure a problem.

And remember, the combo products - VERDE-CAL K or K^{PLUS} that has either VERDE-CAL or VERDE-CAL G included in them. VERDE-CAL NKG is a great aerification time product utilizing potassium nitrate along with VERDE-CAL G.

Success with VERDE-CAL G. Documented study in Texas.

Submitted by: **Bo Phillips**

I received a call from a distributor salesman who had a golf course in south Texas that wanted to try VERDE-CAL G (Enhanced Gypsum) to combat the extremely high sodium (Na) levels in his soils. He has very tough growing conditions. His soil base saturation levels were not balanced, and his water sources at times made things even worse (switching between irrigation lakes to wells to effluent).

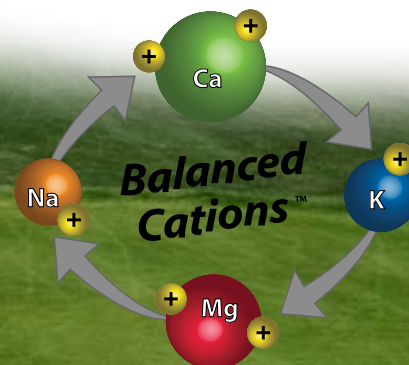
What brings this story up is that we (the distributor salesman and I) had made a sales call on this course about five weeks earlier. The superintendent told us that he would have to check with his soil testing consultant about the application. He had been following his consultants every word since 2002 and didn't want to mess up any progress that he had made. The protocol that he had been following called for three (3) tons of hi-cal lime per acre 2 - 3 times per year (6 - 9 tons per acre per year) and 1000 lbs. of gypsum per acre 3 times per year. The theory behind this is to apply as much calcium (Ca) whether lime or gypsum to the soil to relieve sodium (Na) and salt pressure.

That is the story...

Here is the soil test history dating back to 2002. Refer to the optimal balance chart to help understand where the levels should be.

Soil Test Data

Date	CEC	pH	Ca%	Mg%	K%	Na%	H%
7/20/2006	61.22	7.7	52.00	9.96	3.68	30.60	0
3/22/2006	43.84	8.1	60.12	11.67	4.05	20.86	0
6/3/2004	44.35	8.1	61.56	10.95	4.11	20.08	0
3/24/2003	45.98	8.4	60.45	11.42	4.17	20.97	0
9/23/2002	47.99	8.2	61.04	10.26	3.39	22.10	0
2/6/2002	48.11	8.2	58.00	9.79	3.92	25.09	0



Success Continued . . .

If your CEC is too low, then your levels are easily affected by fertilizer application and other events such as rainfall. If your CEC is too high then nutrient levels are much harder to move because so much more is needed to make a noticeable change. For an example, refer to "Soil Test Data" above. A CEC level that is too high and a 1 lb. application of nitrogen (N) may not even get a response from the plant. You may need to apply 3 lbs. of nitrogen (N) over the course of a month in order to get the color you desired and that 1 lb. should have given. If you have this situation in your soil, and don't understand it, it could be very costly for you and wasteful. Understanding the optimal balance and your CEC levels is key. Look at the Percent of Base Saturation and determine for yourself where your problems lie.

Way too much sodium (Na)!! What has happened to his soils is easy to see. Sodium (Na) has taken over the more dominant cations and their related space on the soil colloid. The recommendation here is for calcium, and in his case lots of calcium in a sulfate form... VERDE-CAL G. Volume, Volume, Volume. With gypsum and hi cal lime the effort is commendable, but the volume of the needed calcium is not present. And it is not exactly in the correct form. Hi cal lime is a carbonate form. Regardless, both gypsum and lime are so insoluble that they cannot condition the exchangeable nutrients and balance the base saturation.

Needless to say, after several years of applying gypsum and hi cal lime, the superintendent finally ordered VERDE-CAL G, and applied it to the 18th fairway as a test. At 30.60% base saturation of sodium (Na) something had to be done. What follows is the same table as above with the test after the application of 500 lbs. per acre VERDE-CAL G. Keep in mind the old protocol of applying 6 - 9 tons per acre per year of hi cal lime and 1.5 tons per acre of gypsum per year.

Soil Test Data after VERDE-CAL

Date	CEC	pH	Ca%	Mg%	K%	Na%	H%
12/22/2006	46.02	8.3	66.90	11.20	3.43	15.30	0
7/20/2006	61.22	7.7	52.00	9.96	3.68	30.60	0
3/22/2006	43.84	8.1	60.12	11.67	4.05	20.86	0
6/3/2004	44.35	8.1	61.56	10.95	4.11	20.08	0
3/24/2003	45.98	8.4	60.45	11.42	4.17	20.97	0
9/23/2002	47.99	8.2	61.04	10.26	3.39	22.10	0
2/6/2002	48.11	8.2	58.00	9.79	3.92	25.09	0

Points to note:

1. One application of 500 lbs. per acre VERDE-CAL G did more in 5 months than all the other calcium (Ca) products had in the past four years.
2. Sodium (Na) levels were cut in half. Consider the high CEC and this is very remarkable.
3. Calcium (Ca) levels are now in check. Had never been there in the past.
4. Magnesium (Mg) levels are in check.
5. Potassium (K) levels are in check.

The pH increased on the VERDE-CAL G test. The reason why is easy to understand. Remember all the hi cal lime that had been applied over the course of four years. The PHCA found much of that and released it. When the hi cal lime became more soluble, it reacted with the soil colloid and the pH came up a bit. However, the results are visible. The turf is growing, and the soil is conditioned and color is better. Remember, the PHCA is a very powerful organic carboxylic acid. There is no other acid on the market that reacts such as PHCA. Its ability to release calcium (Ca) is proven through university data and continued use. More on this in the next article.

The superintendent was so pleased that he ordered an additional 17 pallets to treat the entire golf course. Think of the savings per acre and ease of application utilizing less product. The soil consultant was sold as well and is currently recommending VERDE-CAL products when needed.

A quote from world war two.

"Victory goes to the player who makes the next to last mistake".

"A lie gets half way around the world before the truth has a chance to get its pants on."

Winston Churchill

During dry and drought stricken years, many superintendents urge the members to wash their cars and plan outdoor activities to make it rain! I wonder what they urge the members to do when it is too wet???

Lawncare News That Matters

VERDE-CAL (enhanced hi cal limestone) is a perfect fit for lawncare. VERDE-CAL G (enhanced gypsum) is an growing market as well. The benefits: Less product to handle, less waste, lower rates as compared to lime or gypsum. Cost per acre or per thousand is the same or even less. I recently priced

out VERDE-CAL vs. lime to a lawn care company. The Verde-Cal was \$1.65 per thousand. The regular lime was \$2.25 per thousand. This is huge to your lawncare customers. Instant savings, and easier application. The profit margin was 38% on the VERDE-CAL. This week I priced out VERDE-CAL G vs.

Gypsum to a lawn care company here in Myrtle Beach. VERDE-CAL G was \$1.90 per thousand. The gypsum was \$2.50 per thousand. The VERDE-CAL G had 40% margin. When selling these products, remember... you must sell the benefits. If you do this, you can increase margin.

If you need more literature, please request some to be mailed to you by contacting the following:

maryanne@aquaaid.com
scott@aquaaid.com
jennifer@aquaaid.com

Specify how much you need and where to mail it to.

More Lawncare News. . .

In cool season as well as warm season turf, we hear all the time how disease resistance is better after using VERDE-CAL or VERDE-CAL G. In Florida, St. Augustine grass has shown tremendous resilience to disease pressure after VERDE-CAL G applications. You have more sodium (Na)

pressure in Florida which results in less nutrient uptake and more tied up nutrients. Also pH is typically above 7, and this adds to fungus pressure. In the North, VERDE-CAL is used more due to the need to maintain decent pH. In Fescues and Bluegrasses, the feedback

has been very good. More turf vigor and better resistance to environmental stresses. However, in the northern regions, Magnesium (Mg) can also be a problem. For this you must use VERDE-CAL G. Read the labels, they state exactly what each should be used for.

Carboxylic Acids. . .

We have recently seen some more products utilizing a form of carboxylic acid. I guess we better get used to this as we have awakened some competition. There is only one carboxylic acid that has been tested thoroughly and used more widely on turf, and it is PHCA. Our extensive data proves its use and function. Carboxylic acids

are available by the hundreds, and it does not surprise me to see the competition jumping on the bandwagon. We urge you to be aware of these others, and if you need help to compete, please give us a call. Our PHCA works with only 1 – 2% in the products we make. If you wish to have a stronger product, we make Redi-Cal. This is a 5.4%

liquid product that can be used as a spray or injection. If you are seeing any other form out there, it is simply not the same. And in some cases I have seen duplicate copies of the percent AI in an effort to copy us. There is only one source for the "real deal" and that is through AQUA-AID, INC.

**FEED THE SOIL AND THE SOIL
WILL FEED THE PLANT.**



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