

NEWS FROM VERDE-CAL®

First Quarter
2010

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



Miller's Miscellaneous

Happy New Year to all our customers and distributors! While we put away all the sales and activity from last year... We look forward to a new year of successes. What will the new year bring for us? We will only know as we wake up and attack each day and make it the best it can be. We in the golf industry are "survivors". Meaning, we make the best of every situation we are called

upon. All the while knowing that mother nature, timing, and many other factors can change at any given moment. Still we seem to make the best of our business with these factors involved.

This issue is about salt remedies and many of the practices that go along with flushing and treating salts. AQUA-AID/VERDE-CAL products fit in very well as we have many attractive options

for treating salts in your soil and the related problems that accompany it.

I have included an article about the Why's and What's of customer service. Perhaps your customer's could benefit from reading this as it brings home a point of them using you, the sales rep, to your fullest.

Enjoy the newsletter and we will see you very soon.

Special Interest Articles:

- Miller's Miscellaneous
- Pass The Salt?
- How Do I Get Rid Of Salt?
- Soil Test
- A Budgetary Mistake
- Salt Remedy Products
- Water Test
- Why's to What's

Pass the Salt?

I was fascinated to learn (or better yet, to reinforce the fact) that life cannot exist without salt! Funny to think about salt this way! Especially when we try to avoid too much salt in our own diets! I was recently watching a show on the Discovery channel about a lake that could not sustain life because it had no salt in it. Then, on the flip side we learn about the Dead Sea and its (somewhat) lacking of life due to too much salt. Finally, I have an excuse for my poor fishing performance! I guess I just cannot find the right amount of salt in the water I fish!!! Blame it on the salt!

In the business of growing turf and ornamentals, I hear the word salt used a lot. Many times it carries multiple meanings that can be related or not to actual salt. Like sodium, tight soils, turf damage, poor color, the body of water in the soil profile that is feeding the turf, poor drainage, dead turf as well as many other "possible" meanings when we speak of salts.

Turf is no different when it relates to salt.

First things first: It is important to understand that for the most part, the fertilizers we are using and applying to our turf and ornamentals are salts in some form. We often use the term "ions" when discussing soil and water test nutrients. The term "ion" is a catch all for nutrients that are either cations (positive) or anions (negative). It is also important to know that these ions are not free until they reach the soil system and are release by some means such as hydrolysis, oxidation, soil temperature or microbial activity. Only when the release of these ions occur, will the process of building up salts begin.

Testing for salts can be accomplished in many ways. Many times we see soil tests that omit critical salts tests. Meanwhile, that same golf course is "flushing salts" as a common maintenance practice. If you are flushing salts from your turf areas, you should be doing this based on certain salt tests. A sodium test measures sodium salt. In the soil, sodium (na)

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Pass the Salt? Continued . . .

AQUA-AID/VERDE-CAL representatives have salt meters. If you would like to check your levels, please call one of us or the office for a visit.

*"Manifest plainness,
Embrace simplicity,
Reduce selfishness,
Have few desires."*

Lao-tzu

should not exceed 2% of Base Saturation and should not exceed 18 ppm's on a paste test. In the water test, sodium should not exceed 50 ppm's. When it does, it will be necessary to flush or condition the soil to release this salt that can cause: poor drainage, tightening of the soil, bound up nutrients, lack of fertilizer response, poor color and wilt among other problems.

Soluble Salts is another important test for the determination of salt levels in the soil. Without this test you have no way of knowing what your soluble salt levels actually are. Like the sodium (na) test, a soluble salt test typically will cost extra on the soil test report. Our advice has always been to monitor sodium and soluble salts several times per year on at least three or four key greens or other areas. It is worth the money to know where your soil stands.

Chloride is another test that can help you understand your salt levels. Chloride usually coincides with sodium. If one is high so is the other. Chloride levels in water should not

exceed 50 ppm's. 50–250 ppm relates to a "high" test count.

Lastly, **testing EC** or electrical conductivity will give you an accurate outlook on salt levels in the water or soil solution. Water with more dissolved salt conducts electricity easier and will result in higher EC levels. Levels for electrical conductivity should not exceed .78 mg/l.

The decision to flush should be done with certain criteria. Just like any other area of the golf course or property, all factors should be considered to best determine how and when to treat a known problem:

- Water quality
- Budget
- Recent weather patterns
- Soil type
- Soil/water tests
- EC
- Chlorides
- Sodium
- Soluble salts

Remember, all the fertilizer we apply contributes to salts, but at a very minimal level. Other factors help make the problems of salt worse. If you have been "flushing" your soils, what criteria have you been using? Perhaps you have been spending money where it didn't need to be spent. Many times you may actually be doing more harm than good if you are flushing when there aren't any salt levels built up to require this action. In this case you are leaching many essential nutrients as well. Many of these nutrients, such as calcium or potash for example, could be contributing to the balance of salts and sodium. It is rather an unwelcome result that you may be flushing away the cation balance leading to lowered salts. By doing so, the result "could" be higher salt levels in the future if you are not proactive about replacing those essential nutrients.

Every soil and every part of the country is susceptible to salt problems.

"People forget how fast you did a job - but they remember how well you did it."
Howard Newton

How do I get rid of my salts?

We realize that you are not going to take a bunch of tests each time prior to deciding to flush your soils. We wouldn't expect you to do that on the spur of the moment. **You should** however be proactive according to your weather and conditions and have those tests ready or have them taken at the key times of the year! As the sales rep, part of your service is to be ready for your customer. What a great service it would be to know when he wants to flush, or to take a test or two if it is a dry year and show them the need. This could also head off any potential problems that the turf may have due to salts! This will be emphasized in the last article called the Why's and What's. Imagine what a great feeling it would be if you and your key customers shared in the knowledge together.

We here at AQUA-AID and VERDE-CAL have many very effective products and tools to use to flush or lower salt levels in your turf and ornamental areas. Because we have so many products to use, and each works in its own way, we can offer many combinations to really get aggressive. Our products create volumetric cure. Meaning that they address the root of the problems and there is enough active ingredient to truly see results both visually and on a soil test. This is the key to treating salts! If a product is not soluble enough or if it can't carry enough activity, then you only maintain a salt problem. With accurate diagnosis and a sound plan treatment should be effective and long lasting.

"Content makes poor men rich; discontentment makes rich men poor."

Benjamin Franklin

Soil Test Parameter Guidelines

Standard Soil Tests

<i>Parameter</i>	<i>Standard Soil</i>
pH	6.2 - 6.8
OM%	1.0 - 4.0
Sulfur	> 40 ppm
Phosphorous	> 200 lb / ac
Calcium / Base Saturation	> 2000 lb / ac (65%)
Magnesium / Base Saturation	> 200 lb / ac (15%)
Potassium / Base Saturation	350 lb / ac (3 - 6%)
Sodium / Base Saturation	< 50 lb / ac (0 - 0.5%)
Hydrogen / Base Saturation	10 - 15 %
Iron	90 - 150 ppm
Boron	1.0 ppm
Manganese	30.0 - 50.0 ppm
Copper	3.0 - 10.0 ppm
Zinc	5.0 - 10.0 ppm

These numbers will vary based on pH, levels of compaction and other stress factors. lb / ac levels are assuming 6" depth. These numbers are to be used only as a guide.

Water Soluble / Paste Extract Tests

<i>Parameter</i>	<i>Water Soluble / Paste Extract Analysis</i>
pH	slightly acidic
Bicarbonates	< 50 ppm
Soluble Salts	< 950 ppm
Sulfur	5.0 ppm
Phosphorous	1 - 2 ppm
Calcium / Base Saturation	35 - 60 ppm (60%)
Magnesium / Base Saturation	6 - 13 ppm (20%)
Potassium / Base Saturation	13 - 20 ppm (13%)
Sodium / Base Saturation	< 18 ppm (2%)
Boron	0.08 ppm
Manganese	0.10 ppm < 0.25 ppm
Copper	0.07 ppm
Zinc	0.10 ppm

These numbers will vary based on water source used at the lab and should only be used as a guide.

"No race can prosper till it learns that there is as much dignity in tilling a field as in writing a poem."

Booker T. Washington

R e m e m b e r , we offer end user education programs. "More Than pH" and "How to Interpret a Soil Analysis". Please call for an outline of the program you desire.

A budgetary mistake:

"In silence man can most readily preserve his integrity."

Meister Eckhart

"Those who cannot remember the past are condemned to repeat it."

George Santayana

"It is pretty hard to tell what does bring happiness; poverty and wealth have both failed."

Meister Eckhart

YES! We know the economy is rough! YES! We know your budget is tight! Plan ahead and review treatments and alternatives along with anticipated results to see if your money is being spent wisely.

I recently visited a golf course that was experiencing tremendous salt problems. The superintendent was at his wits end dealing with the problem. This was the same course we had visited last year about the same time. At that time we looked at all his tests, his current product use (to relieve the salt issues) and compared tests before and after over the treatment time. His comments were that the products we decided on a year ago (that were working) were too expensive and he was afraid to have such large invoices show up to be paid. So instead he has found "other" products that are less expensive and seem to be "working pretty well" as he

put it. **He has lost his focus!** And because of this he is applying about one twentieth of the amount of active ingredient that he needs, but is making applications two to three times per month in a high labor manner! He does not realize he is spending the same amount of money (since the invoices come in multiple times at lesser amounts each time) He is ultimately "maintaining" the problems instead of curing them with an inferior product choice! We see this time and time again. This is why we say that a big part of your service to your customer is to work on these issues and keep their focus on what is important. I hope the best for the superintendent in this situation. He decided to return to a VERDE-CAL G regimen for his high sodium and tight soil issues. In this case he will apply the curative rate of 440lb per acre. Follow up with a soil test for

sodium, soluble salts, and magnesium. After looking at the after effects... begin maintenance applications at 5 to 8lb per 1000 sq ft or 220 to 350lb per acre most likely bi-monthly or possibly every three months depending on the weather. This eliminates three sprayer applications per month and the expense that goes along with that. This also treats more areas of the golf course vs. where he could not reach with the sprayer. He may also decide to use Salt-Aid or Redi-Cal with some of his fairway spray applications as a secondary treatment application. The important thing here is that we have re-focused him on what is most important. The sales rep may decide to try a combination of salt remedy products we offer. Whatever the treatment option is, it will be decided upon mutually and with credible tests to support it.



Salt remedy products:

We offer a number of remedy products to use or choose from when dealing with salt and salt related issues.

- **Salt-Aid**
- **AcidipHy**
- **VERDE-CAL G**
- **VERDE-CAL**
- **OARS**
- **Remediator**
- **Aqua-Cal**
- **Aqua-Carbon**

All of these products can be used in combination or alone to provide strong lasting results to rid soils of salts.

Programs:

VERDE-CAL G and Salt Aid

VERDE-CAL G at 5 to 10lb per 1000 sq ft with Salt-Aid at labeled rates. This program

approaches most of what salt will effect. Water and soil are both treated with strong results.

VERDE-CAL G and AcidipHy

VERDE-CAL G at 5 to 10lb per 1000 sq ft with AcidipHy at 4 to 15lb per 1000 sq ft. In combination you will reduce the rates of each product over time as there is a synergy. Very strong effect of water, soil and soil pH. Major release of nutrients. Long lasting effects.

VERDE-CAL G and Hi-Cal Lime

VERDE-CAL G at 5 to 10lb per 1000 sq ft with Hi-Cal Lime at 15lb per 1000 sq ft. Add lime at aerification. Use VERDE-CAL G monthly or as needed. The VERDE-CAL G will release the calcium from the lime and give a major release of essential nutrients within the soil and

condition the water. Follow up with rates according to soil tests. This is a very budget friendly approach to salt remedy.

OARS / Aqua-Cal / Remediator / Salt Aid

This program suits severe situations and extremely quick results can be expected. Results have been proven in less than a day. If you have a customer in a very severe salt situation, this program will give them needed relief very quickly.

In all programs a good wetting agent program is a must. There are many to choose from and AQUA-AID offers very easy to use products to aid in the relief of salts by means of moving water.

Visit aquaid.com/products/specialty.html or verde-cal.com/east/products-east.html for more information on the products listed here.

Visit www.aquaid.com/pdfs/DuckwoodsAcidipHyResults.pdf for the results of our AcidipHy testing.

Irrigation Water Parameter Guidelines

Irrigation Water Tests

Range

Parameter	Low	Medium	High	Very High
pH	6.5 - 7.0	7.0 - 8.0	8.0 - 8.5	8.5 +
Carbonate, mg/l	2 - 5	5 - 10	10 - 20	20 +
Bicarbonate, mg/l	50 - 100	100 - 200	200 - 400	400 +
Calcium, mg/l	25 - 50	50 - 75	75 - 100	100 +
Magnesium, mg/l	10 - 20	20 - 30	30 - 40	40 +
Potassium, mg/l	10 - 20	20 - 30	30 - 40	40 +
Sodium, mg/l	10 - 25	25 - 50	50 - 75	75 +
Nitrate - N, mg/l	1 - 5	5 - 8	8 - 10	10 +
Sulphate - S, mg/l	10 - 20	20 - 40	40 - 80	80 +
Phosphate - P, mg/l	0.10 - 0.20	0.20 - 0.40	0.40 - 0.80	0.80 +
Zinc, mg/l	0.10 - 0.20	0.20 - 0.40	0.40 - 0.80	0.80 +
Copper, mg/l	0.05 - 0.10	0.10 - 0.20	0.20 - 0.30	0.30 +
Manganese, mg/l	0.01 - 0.02	0.02 - 0.03	0.03 - 0.05	0.05 +
Iron, mg/l	0.05 - 0.10	0.10 - 0.20	0.20 - 0.30	0.30 +
Boron, mg/l	0.05 - 0.10	0.10 - 0.20	0.20 - 1.00	1.00 +
Chloride, mg/l	10 - 25	25 - 50	50 - 250	250 +
Total Dissolved Solids, mg/l	150 - 300	300 - 500	500 - 700	700 +
Conductivity, mg/l	0.23 - 0.46	0.46 - 0.78	0.78 - 1.09	1.09 +
Fluoride, mg/l	0.30 - 0.70	0.70 - 1.20	1.20 - 2.00	2.00 +
Hardness, mg/l	60 - 120	120 - 180	180 - 240	240 +
Salinity Hazard	0.20 - 0.75	0.75 - 1.50	1.50 - 3.00	3.00 +

These numbers have been categorized into low, medium, high and very high. They are to be used only as a guide.

"We don't receive wisdom; we must discover it for ourselves after a journey that no one can take for us or spare us."

Marcel Proust

How to turn Why's into What's:

The instructor said, "if your customer is asking "why" questions, than you have not done your job as a salesman. If they ask, "what" questions, than he is a customer for life." How true this is!

Why should I use this product?
 Why is this one more expensive?
 Why doesn't this product work?
 Why did he say this one is better than that one?

These questions need to be addressed at the time of your meetings. Of course there are many other "why" questions, these are just a few. But ask yourself when you lose a sale?

Why did I lose the sale?
 Why did he buy from the other guy?
 Why did he not understand my explanation?
 Why, Why Why?

Answer those and you become a better salesman!
 And begin getting more "what" questions!

What is the difference?
 What makes this product better?
 What is in this product?
 What is the best way to apply?
 What, what, what?

Now those questions are posed to you for several reasons.

Usually "why's" are kept solely to your customer. You may never know any of his "why" comments. "What's" on the other hand are posed to the one that your customer knows is credible and knowledgeable. And your answers are trustworthy

and factual. You don't over sell or over promise anything. "What's" are a reward to you for doing a good job servicing and satisfying your customer!

Now many of our distributors send this on to their customers as we try to make this newsletter user friendly to everyone. So if you are a "end user" and reading this... Ask yourself some questions:

Who do I ask "why" questions to?
 Who do I ask "what" questions to?
 Who takes care of me?
 Am I getting all I can from the one I rely on the most?

The next time you see your rep, ask them these questions.

Can you plan soil tests for me?
 Can you plan and map out my salt or soil issues better for me?
 Can we lay out a program to really look at my salt or soil programs? One that I can take to the committee and show them?
 What can my best rep do better for me?
 What will be the outcome of such better service?
 What will by success be?
 What will be the time I spend in the future on these issues?
 What will my turf and ornamental look like in the future?

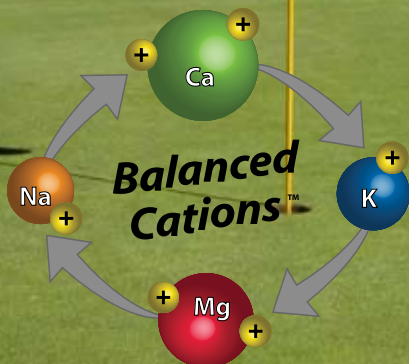
My guess is your "whats" will be answered in a very positive way! We will all be more successful!

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

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 scott@aquaaid.com

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

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



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