

Walter Pall Blog Post

Walter Pall Blog Post

[Victrinia Ridgeway](#) on Thu Jun 17, 2010 2:48 am

Walter wrote an article for my club's newsletter, and has posted it on his blog.... the subject was originally around conifer fertilization... but he handled the subject from his wholistic approach and included watering and substrates... VERY cool piece of writing!

It's very worth a read... Huge thanks to Walter for being so kind as to provide something of such value to my humble little club.

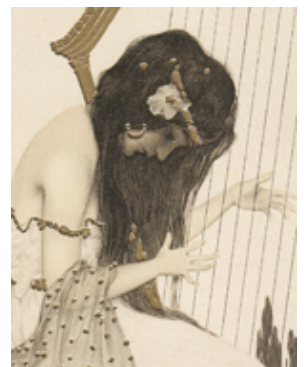
It goes to the heart of something I've long felt and tried to correct, though not so well as this... That many people often focus on styling - without having sound understanding of horticulture. This just may help clear the waters for some people.

Granted... I think most bonsai growers wouldn't have the time or dedication to put to it that Walter has... but I still see it as something of an ideal. And if the proof is in the pudding.. it works because there is no question about the health or vigor of his trees.

Enjoy!

Victrinia

<http://walter-pall-bonsai.blogspot.com/2010/06/feeding-substrate-and-watering-english.html>



**Victrinia
Ridgeway**
Member

Posts: 172
Joined date: 2009-06-17
Age: 41
Location: Bremerton,
Washington, USA (zone



Re: Walter Pall Blog Post

Walter Pall on Thu Jun 17, 2010 3:57 am

We might as well include the whole article and not just the link.

Feeding, Substrate and Watering

Methods of Walter Pall (edited by Victrinia Ridgeway)

I was asked to write a paragraph on the 'feeding of conifers'. So I sat down and came up with this. But the question, "How do you feed conifers?" when given a short answer, can lead to serious misunderstandings and to fatalities.

Substrate, watering and feeding cannot be seen as separate. Each is connected to the other and so it becomes quite complex. Be it a deciduous tree, conifer, young, old, recently potted, or even collected, there are so many variables inside a bonsai garden. Can there be a clear answer?

Well, yes. But one has to read quite carefully and then do EVERYTHING. It is not feasible to pick one that you like and ignore the others. You cannot feed according to my method and don't care what substrate you have or what your watering regime is.

First, I set aside everything that has been written in most bonsai literature about the subject. As technology grants us access to new and more effective methods and products, the way we care for our trees has progressed beyond the boundaries of tradition. It has been a new and modern world for some time, but many have not realized this. Even if some measure of success is achieved with the old methods it can be dangerous if used with modern substrates and practices, or even deadly.

Substrates: Good substrate material must: be of equal particle size, have the ability to absorb water and release it back, have no fine particle organic material, must not decompose easily, be as lightweight as possible when dry, preferably inexpensive and should have an aesthetically pleasing appearance. This would then be: lava, pumice, baked loam, Turface, zeolite, Chabasai (a type of zeolite), coconut pieces, bark pieces, Styrofoam pieces (no joke) and a few more which you can find yourself if you have understood the principles. Please note: Some of these materials may not be available in your area.

Normal akadama is questionable as a good substrate as it inevitably decomposes, especially when exposed to winter frost. It can become deadly loam in the pot, choking

the flow of water and air into the soil. This is especially true for trees which are only rarely repotted, like collected conifers and old bonsai in general.

Substrates which are not useful: soil, compost, stones, sand etc. Trees grow in sand and flower soil, of course, but it is not an optimal growing medium for health in bonsai culture.

All substrates can be mixed according to your liking and it makes almost no difference. They can also be recycled and used again, but make certain to sift and clean any recycled materials as needed.

There is no such thing as an 'ideal bonsai substrate'. There are in fact thousands of ideal substrates. I believe that IT DOES NOT MATTER WHAT YOU USE AND IN WHAT MIXTURE as long as it is a modern substrate.

Since there is no soil in modern substrates there is very little alive in them. They dry out easily and one must water several times a day when it is hot, especially if you have used pure inorganics. Therefore I add rough peat in addition to the previously mentioned substrates. This is the kind of peat that is harvested in bogs and comes in its natural coarse form. Make certain not to use fine particle peat/sphagnum moss, even if the package says "dust free" as the particles will be too small. If you cannot find the correct type of peat, use small bark bits without dust particles, or cut coconut fibers. These organic components should comprise 15-20 % of the overall volume, a bit less with conifers, olives and such, and a bit more with small trees and azaleas.

These organic materials are good for keeping humidity higher in the substrate and for supporting the colonization of beneficial microbial life in the soil composition. Research also seems to indicate that peat moss has plant hormones which are good for trees. These are organic materials which would normally have no business being in a bonsai substrate, but the ones mentioned take five years to decompose. You have to consider this when planning your repotting schedules. The organic material should also be sieved out of any substrate that is being recycled.

Watering: I have a watering schedule that runs from the end of March to middle of October EVERY day. This is regardless of whether the trees appear to be dry or not. Only when it rains heavily will I refrain from watering the trees. When it is hot, or there is strong wind, or a combination of the two, I water two or even three times in a day. Very small trees must be watered twice a day. ALL trees are watered the same. Individual watering habits are not needed when all of your trees are in a consistent well draining substrate. There is also no need to carefully train a friend how to water your trees when you are away. Any person can water the trees; everything must only be watered thoroughly. It also does not matter what type of water is used. Tap water is very usable for all plants, even if it is hard water. I have some of the hardest water in Europe in my

garden (23° DH). I use this water for everything, including azaleas. I water with a garden hose, full speed. I do not water individual trees, but areas, just like you might water your garden with a sprinkler system.

When you water this way, water aggressively. This means everything becomes very wet, the whole tree from top to bottom. The water must run out of the draining holes. It is very good for the trees if the crown gets wet every day.

With modern substrates over-watering is almost impossible. You can water for hours and all of the excess will just run through the pot if the correct substrate is used. It is very easy to under-water though. Many bonsai die because they are sitting in modern substrate but are watered according to the old methods - under-watered in fact.

Feeding: With modern substrates and aggressive watering, feeding is no secret anymore. ANY fertilizer that is offered for ordinary plants can be used, whether organic or chemical. Fertilizers should have LOTS of nitrogen. Only with nitrogen plants can grow.

I use mainly liquid fertilizer that I get from our cheapest general discount market. In America it would be Walmart. Use general fertilizer that is noted as being good for all plants. In addition I buy a few dozen boxes of granular fertilizers which contain chemical and some organic ingredients. Two times a year, in the beginning of May and in the end of August, I throw a handful of dried chicken manure at the trees. I buy this in large bags, which is very inexpensive. That's it. For ALL of my trees including the world famous ones I use the same fertilizer.

How much? WAY MORE THAN YOU THINK! I feed from 20 to 60 times more than the average bonsai grower. From the beginning of April to the middle of October, every ten days everything is fed with liquid fertilizer, using three to four times the suggested dose. All trees are fed equally, whether deciduous, conifers, small, large, repotted, collected or not. This is a span of about 200 days when the trees are being fed. Since the trees are fed three times the normal dose on twenty days in that time, it makes for 60 doses of fertilizer in the growing season. The average bonsai grower feeds maybe three or five times at half the normal dose because 'bonsai trees should not grow'. If you then add two times a year of chicken manure being given to the trees, you can then understand why this schedule is 20 to 60 times more than the average.

Asian fertilizer cakes are fine but superfluous in our culture. We don't eat steak with chop sticks and don't have to feed plants with cakes. But they don't hurt if you insist of using them; they are just unattractive to look at. Biogold was made to be used with modern substrates like akadama, and it works well. If you give it to me I will break it into very small particles which I then throw all over the substrate surface of the trees.

After one watering it becomes invisible.

Too much salt in the substrate is almost impossible if one waters aggressively every day. Even azaleas don't mind my treatment. They thrive very well with very hard water, ordinary baked loam and peat as the substrate and aggressive feeding like all the rest of the trees.

About ten years ago 'super feeding' was proclaimed and a while later forgotten. It did not produce the expected results and many trees suffered and even died. What I do sounds similar. Well, it is similar, only that I insist on aggressive watering in parallel to aggressive feeding and the use of modern substrates. I also don't make the ingredients of fertilizing trees into a science. I tell you to buy whatever is on sale in the garden center or agricultural supply store.

This feeding scheme is for trees in development. Remember that 99.8 % of all bonsai are 'in development'. If you happen to have one that should really not develop anymore you slow down its feeding schedule considerably. You let it starve on purpose. Then it will get smaller, and fewer, leaves and needles. It will look good for shows, but your tree will go downhill if you continue to do this for too long. After a few years you have to feed it aggressively again to let it recover.

Summary: Do all three or nothing! You have no choice here. To just pick one method and refuse the others will end in disaster. Those who do 'super feeding' using old-fashioned soil, and insufficient watering will kill trees. Those who use modern substrates, aggressive watering and fertilizes like the old days will have very weak and, in the end, dead trees. That's all there is to it.

So the question, "How do you feed conifers?" gets the answer, "Like all other trees, but you have to know the whole story."

I know that many will not believe this. 'He who heals is right', is a saying in human medicine. In gardening 'he who has the healthiest trees in the long run' is right. Come to see my garden or look at my gallery, they speak for themselves.

All this was not discovered or invented by me. I only learned from professional modern gardeners. They have done this for decades with great success. I have adapted modern horticulture to bonsai. Only in the bonsai world does this seem revolutionary.

greetings

Walter Pall

<http://walter-pall.de>

<http://walter-pall-bonsai.blogspot.com/>



Walter Pall

Member

Posts: 338

Joined date: 2009-01-10

Age: 68

Location: Egling, South of Munich, Germany



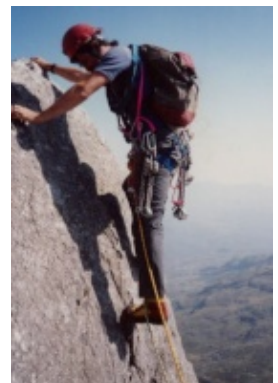
Re: Walter Pall Blog Post

Kev Bailey on Thu Jun 17, 2010 4:36 am

Very interesting Walter. Thanks for posting it here.

I can see that my feeding regime is too conservative. Soil and watering practice is similar to yours, so I'll start experimenting with increased doses. I use the dried chicken manure already.

"It is not the strongest of the species that survives, nor the most intelligent. It is the one that is the most adaptable to change." - Charles Darwin.



Kev Bailey

Admin

Posts: 2265

Joined date: 2009-01-05

Age: 57

Location: North Wales, UK Zone 9



Re: Walter Pall Blog Post

Hawaiian77 on Thu Jun 17, 2010 5:26 am

Mahalo Walter for the information. It has open my eyes a bit.

A Hui Hou,
-Tim

"Two things only a man cannot hide: that he is drunk, and that he is in love."

~Antiphones



Hawaiian77

Member

Posts: 494

Joined date: 2010-01-19

Age: 53

Location: Maui,
Hawaii/USDA Zone 11
(And loving it!!)



Re: Walter Pall Blog Post

Rob Kempinski on Thu Jun 17, 2010 5:58 am

Great article. The most important point about the article is to think about your horticultural practice in a wholistic sense and water and fertilize from there. Do not blindly follow someone's advice without thinking about why.

I believe three other factors are important in watering - soil particle size, ambient temperature and root mass density. They are related as a triad. I included a figure in my book to try to explain this.

I use smaller particles in my shohin trees.

Local conditions can make a difference. In Florida in the summer it can go weeks where it rains hard virtually every day for an hour or so. Well draining inorganic soil mix as Walter mentions is critical for us. However, one exception, I don't use any organic component. The pines would stay too wet. Sometimes in a real monsoon season, even with the inorganic mix, I need to protect my conifers from rain. There is one major exception, Bald Cypress is a conifer that can take and will enjoy as much water as you can give it. I add lots of organic content to Bald Cypress soil mix to help keep it wet.

As for fertilizer, I use almost exclusively Miracle Grow granular fertilizer. Placing lots on the soil means every time the trees are watered there is fertilizer available for the trees. With our long growing season I place the Miracle Grow year round. The light green color doesn't look too bad. Once in a while I apply liquid fertilizer but rarely as it takes too long to give it to all my trees.

Regards,

Rob aka **Bonsai Golfer**

Check out the new BCI website <http://www.bonsai-bci.com>

Have you joined BCI? Only \$19 for an e-membership!



Rob Kempinski
Member

Posts: 1904
Joined date: 2009-02-08
Age: 56
Location: Melbourne, FL



Re: Walter Pall Blog Post

Jur on Thu Jun 17, 2010 9:01 am

Victoria, thanks a lot, you motivate Pall to write such an interesting and useful article! Many thanks directly to Walter.

Last edited by Jur on Thu Jun 17, 2010 5:52 pm; edited 1 time in total

Jur
Member

Posts: 12
Joined date: 2009-01-23
Location: Moscow, Russia



Re: Walter Pall Blog Post

Michael T on Thu Jun 17, 2010 9:23 am

Did the world just stop spinning?

Good stuff.

Michael T
Member

Posts: 98
Joined date: 2009-01-09
Location: Louisville, Kentucky



Re: Walter Pall Blog Post

Victrinia Ridgeway on Thu Jun 17, 2010 9:49 am

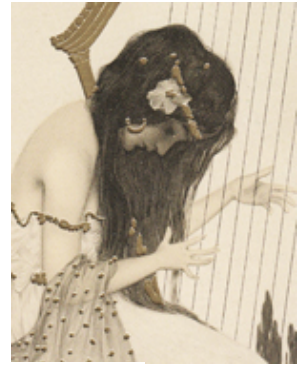
I think the thing which is most wonderful about this article is that it puts in focus the things which I believe bonsai has been trending towards. Most of us do some of it, few of us do all of it. As Rob so aptly points out, there are even more details to consider, but this is a foundation to getting where you want to be. Looking at Walter's progressions, it's not hard to understand how he accomplishes such amazing work when seen through the lens of his care regime.

But it also plainly states the potential risks of only doing parts of this regime. To channel the inner Yoda that Alain was doing the other day...

Do, or do not. There is no 'try'.

Kindest regards,

Victrinia



**Victrinia
Ridgeway**
Member

Posts: 172
Joined date: 2009-06-17
Age: 41
Location: Bremerton,
Washington, USA (zone
8b)



Re: Walter Pall Blog Post

Jerry Meislik on Thu Jun 17, 2010 12:18 pm

Walter,

I find your discussion very, very worthwhile and should be followed, with comprehension, by all bonsai growers.

Jerry

www.bonsaihunk.us



Jerry Meislik
Member

Posts: 363
Joined date: 2009-01-23
Location: Whitefish,
Montana, USA



Re: Walter Pall Blog Post

stavros on Thu Jun 17, 2010 12:24 pm

One major consideration is the fact that many trees have a rootball that may contain

soil (yamadori) or substrate that broke down (especially trees from Japan with akadama that brakes down).

I understand that one must replace this with a modern substrate as the ones Walter is talking about. Sometimes, especially in conifers this is a bit of an issue as you must do it in a stepped manner.

Can anyone give some insight on this? (replacing old soil from the rootball)

Thanks

stavros

Member

Posts: 260

Joined date: 2010-02-13

Age: 41

Location: Cyprus



Re: Walter Pall Blog Post

[bonsaistud](#) on Thu Jun 17, 2010 12:25 pm

G'day Ms Vic...and Walter...

Thank you so much M'Lady for initiating this thread.

And Walter...what an outstanding "paragraph", which, I find, relates very well to your 60X use of fertilizer. For a number of years I have been using, as you suggest, same soil, same fert, same watering for all of my plants. I am now going to study your "paragraph" and determine how I may redefine my soil/fert/water process. Your "60X" suggestion...not sure just how far I'll go, but I will definitely get more aggressive with fertilizing.

Again, thank you my friends, for this wonderful "paragraph".

Pat...mounted on my trusty stead, riding off wildly in all directions...



bonsaistud

Member

Posts: 277
Joined date: 2009-05-01
Location: SFBayArea No California Vox Clamantis in Deserto



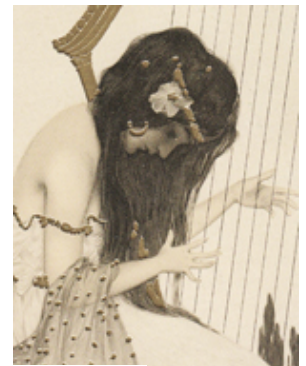
Re: Walter Pall Blog Post

[Victrinia Ridgeway](#) on Thu Jun 17, 2010 12:29 pm

lol... Pat you can only image my surprised delight when I opened the document which contained said "paragraph".

Warmest regards,

Victrinia



Victrinia Ridgeway
Member

Posts: 172
Joined date: 2009-06-17
Age: 41
Location: Bremerton, Washington, USA (zone 8b)



Re: Walter Pall Blog Post

[Ed Trout](#) on Thu Jun 17, 2010 1:15 pm

Thank You Victrinia & Walter,

I am happy to say that I have been using your suggested method of watering and fertilizing for over 35 years. IT WORKS ! Many of the personal bonsai collections I visit are underwatered & not fertilized enough, and their trees do not look vibrant. When trees are happy, they will show it !!

Ed Trout Pembroke Pines, Florida zone 10c

Ed Trout

Member

Posts: 159

Joined date: 2009-01-09

Age: 66

Location: Pembroke Pines, Florida USA Zone 10c



Re: Walter Pall Blog Post

Dustin Mann on Thu Jun 17, 2010 4:51 pm

Good concise discussion. Thanks Victrinia(and of course Walter). Reinforcing. I fertilize about every 3 days(11mo./yr) with fish emulsion and use either 100% or 80ish% red and black lava rock past 15yrs. Dustin Mann

Dustin Mann

Member

Posts: 142

Joined date: 2009-08-17

Age: 65

Location: Ann Arbor Michigan



Re: Walter Pall Blog Post

AlainK on Thu Jun 17, 2010 5:37 pm

Very sound advice for most of us Europeans, an excellent reference based on experience and common sense.

Grumph.

Check the galleries at my local club's website : <http://www.rdb45.fr/galerie.html>

Alain K. - Orléans, France

AlainK

Member

Posts: 660

Joined date: 2009-02-

23

Location: France, near
Orléans - USDA zone 8



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