

AMERICAN PAULOWNIA ASSOCIATION

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JANUARY 2008

Dialogue – Israeli Paulownia Grower and Dan Blickenstaff, APA Publicist

Sent: August 14, 2007

Subject: Growing Paulownia Trees

Hello to You All,

My name is Beni Gavrieli and I grow paulownia trees in Israel. I see the pictures on the various websites and see amazingly large trees in a very short period of time. None of the growers in my area see results like that.

Our trees were planted in 2003 and 2004. After one growing season, they were coppiced and allowed to grow. The tallest tree that we have is 5 meters high from ground level to the first branch. The average tree is between 3.5 to 4 meters (10-12 ft) high. The diameter at chest height is between 5 and 6 inches (12-15 cm). How did we arrive at these numbers? We grow 2500 trees. We surveyed and measured 90 of them and came up with those numbers. There are thicker trees that didn't enter the survey. On the whole, they are shorter trees, but thicker. Do you think that there is any hope that some day they will be large enough to market?

We are in the middle of the summer now. I see most of the trees with fantastic foliage. There are some, however, that for some reason appear to have gone into shock and shed a lot of their leaves for no apparent reason. There are still many leaves on these trees, but they do stand out as different. Any ideas?

The trees are drip irrigated and neither lack for water nor do they receive too much water. The average day temperature for the past month or so has been 35 to 40 degrees Celcius (high 90's to over 100 degrees F). I have taken soil samples and have sent them for analysis. In the meantime, until I get the results back, I have taken some pictures of my trees. Please let me know what you think.

I would be grateful for any help and/or advice.

Shalom,
Beni Gavrieli
Kibbutz Sde Eliyahu
Israel

Response: August 31, 2007

Dear Beni,

It is good to hear from you again, even in what appears to you as a distressing situation. Zoe'Anna forwarded your slide show and information to me for a possible explanation. I will do my best to help answer your questions and possibly resolve some of your problems. But first, I will need answers to all of the following before a complete assessment can be accomplished. If you can provide me with as many answers to my

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President's Message. . .



Welcome!!

Here we are in our annual rite of winter waiting for the days to get longer and eagerly searching for early signs of Spring. This means lots of work to follow our studies, musing, and conversations since the leaves fell from our paulownia trees.

This issue of the Newsletter brings some new approaches to the silva-culture of paulownia, and stimulates us to attend to all the exciting things happening in the field and in our world. We are reading and hearing a lot about sustainability, or how we can continue to live our lives and do business with minimum interference in our environment. Part of this movement is involved with alternatives for generating energy from non-fossil fuels, which are gone forever after we burn them up in our autos and power plants. The quest for renewable energy sources is pointing to biomass possibilities among other things- where paulownia and other plant life may play a role. There will need to be considerable work and research done to validate such possibilities. If a tree can take care of a ton of carbon dioxide, we can see why some scientists claim "trees are the answer". As serious growers, we'll continue to do our work and follow how scientists and laboratories will pursue findings. In the meantime, we look forward to our Annual Meeting in Pulaski, Tennessee, and the approach of Spring. Enjoy!!!

Vince

17th ANNUAL AMERICAN PAULOWNIA ASSOCIATION CONFERENCE Martin Methodist College, 433 W. Madison St., Pulaski, TN *April 17-19, 2008*

PURPOSE: The theme of the seventeenth annual meeting is: The Green Revolution – The Role of Paulownia in the Feedstock, Products and Energy Production Cycles.

AUDIENCE: Landowners, growers, farmers, foresters, loggers, wood product manufacturers, home construction fabricators, investors, green industry enthusiasts, energy researchers and producers, and anyone interested in learning more about Paulownia.

TOPICS & ACTIVITIES: Paulownia silva-culture; current research findings addressing biomass extractives, potential energy feedstock, and structural strength inquires; renewable product developments; energy and ethanol production; carbon credits and other offset programs; Beginner 101 seminar and field trips to local Paulownia plantations.

For Further Information and Registration go to:
www.paulowniatrees.org; or email us at: palownia@erols.com

The American Paulownia Assn., Inc., Convention Registration, 16345 Mt. Tabor Rd.,
Hagerstown, MD 21740

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questions as possible by Thursday September 6, I will take your slide show and your responses to our next Directors meeting and obtain their input also.

1- For the 3 locations, what previous crops and/or activities were performed there? Were any chemicals, natural or organic wastes used in the process?

2- Explain the initial site preparation steps taken and the complete planting process (soil preparation, sub soiling, weed and grass control, chemicals used, initial irrigation and fertilizer applied, spacing between trees, planting process, etc.) Be as complete as possible, there may be something in this that will explain the variance between apparent tree vitality.

3- Please provide me with the following information from your soil analysis:

Name of soil type; % clay; % sand; % loam; % or ppm of the following (sodium/salt, potash, potassium, calcium) NOTE: Nitrogen does not normally occur in adequate amounts for Paulownia naturally. It must be added by the growing and decomposition of ground cover crops such as lagoons or by addition of inorganic or organic materials. What ever little natural nitrogen exists is readily washed away by rains and irrigation and must be replaced for fast growth to occur.

4- Have you used any herbicides, fungicides, pesticides or other chemicals since planting? If affirmative, what were they?

5- What is the depth of your natural water table during both the "wet" season and the "dry" season? If you do not know this for sure, you can auger/dig several 2 meter deep holes 12" diameter and wait 24 hours and then measure the distance from the ground's surface to the water. If there is no water collected in the holes, you are safe and you have no localized water logging and/or drainage problem. Make sure to place these in both the high and low areas if you have elevation variances.

6- What is your annual rainfall? What are the times of year do they occur (dormant or growing season) and at what frequency do they occur?

7- What are your high and low temperature extremes and duration? Have you used any sun burn or sun scald prevention methods?

8- What species and cultivars of Paulownia did you plant (Examples are: "elongata", "fortunei", "fargasi", "tomentosa", etc.)?

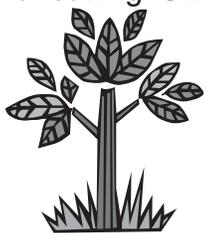
9- What type of planting stock did you use (Examples are: seed source seedlings; root cuttings; clone plants from tissue lab; limb, bud or root collar grafts; etc.)?

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10- From looking at the pictures and reading your notes, following are a few general perceptions I can offer until answers to the above questions are provided:

a- Coppicing two or more times will allow a larger root system to develop and usually result in a much taller tree stem.

b- Leaves and lower branches will die and eventually fall off naturally for lack of sun light. Paulownia will always direct most of its growing energy and reserves to the top of the tree where there is little light competition. This is why they will grow straight and tall if forced to do so when first planted. Plantations are then thinned of some of the trees so that the remaining trees can fill out naturally and develop a full canopy. If originally planted widely spaced, extra care must be taken to coppice them more than once, force feed them fertilizer, and be meticulous in keeping the limb buds pruned off during the first several years until enough shade develops to prevent further sprouts on the main stem.

c- Some of the trees appear to be too closely spaced resulting in competition and tall spinley trees which were never thinned. What was the original spacing between the trees and rows?

d- slide 15: The Tirat Tzvi trees appear to be taller and thinner because of the original spacing. What was the spacing?

e- slide 17: There are several common reasons that Paulownia trees will die sparatically:

1) Too much water from the natural water table, irrigation and rainfall with out adequate drainage.

2) Too much natural salt (sodium) or other chemicals in the soil.

3) High soil clay content or other soil conditions such as sub surface hardpan, stone, shale, etc.

4) Herbicide and/or other chemical damage.

5) Soil and air borne pathogens. This is rare, but some of the leaves you may be thinking are dry weather curling appear to me as either soil pathogen damage or air pollutants. Is there any farms or other activities within one mile upwind that use chemicals?

f- slide 22: This is a classic sign of a drought

stressed tree after receiving a fresh supply of moisture.

g- slide 24: Sun burn and sun scald may be caused by both freezing temperatures and exposure to hot direct sun light temperatures. It appears that the damage to your trees was caused by hot direct sun light. This can be minimized and/or prevented by protecting the stem with the use of a tree guard such as wrap or painting.

h- slide 25: Trees will stop sprouting lower branches once there is little or no sun light that reach the stem areas. This will usually occur after 3-4 years based on original tree spacing and vitality.

i- slide 26: I assume that you meant to say that the tree circumferences are 13-15 inches. This equates to 1.5 to 2.0 inch diameter growth per year which is very satisfactory. Do not believe all of the hype about extreme growth rates as published on the web. I have never heard of nor seen a Paulownia plantation that sustained a uniform average growth rate of more than 2.0 inches diameter per year. This is the reason that you want to obtain the tallest stem before you let the top fill out and start adding wood mass to the bottom log. Each 2 inches of diameter increase will mean up to twice as much economic gain for a 16 foot log verses an 8 foot log.

Best Regards,

Dan Blickenstaff

September 2, 2007

Hi Dan,

I will try to answer as well as I can:

1- There are 3 locations: Hoonazir, Tirat Tzvi, Toucan.

Hoonazir: (1000 trees- 6 acres) The soil here is light gray soil. It was used to grow pomegranite trees up till three years before I planted the paulownia. The yields were especially low when compared to pomegranite trees of the same variety that we grow elsewhere on the kibbutz. It

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was decided to uproot the trees. Wheat was grown for two years and then we planted paulownia. As the field was considered an organic one, no chemicals or chemical fertilizers were used here. The only fertilizers used were compost made of cow and chicken manure.

Tirat Tzvi: (4000 trees - 25 acres) The soil here is heavier and is red. It can be considered as having a high clay content. Nothing was grown here except weeds for years.

Toucan: (1500 trees - 7.5 acres) The soil here is even heavier and is red. It can be considered as having a higher clay content. There are also many rocks and stones. This field was cultivated for many years with corn, alfalfa, and wheat. It layed fallow for two years before we planted paulownia there. Here we did use chemical fertilizers as directed in order to grow the corn, et al.

2- Site preparation: All three sites were deep plowed, then disk cultivated, then leveled. Hoonazir and Toucan have above ground irrigation by way of drippers. The initial configuration was two 4 liter/hour drippers (1 gallon/hour) per tree. The drippers were spaced 12-15 inches from each other with the tree planted in the middle. Holes were dug and each hole received 2-3 pounds of compost that was mixed with dirt. The holes were filled with water which filtered into the soil. The next day, the trees were planted. The sites were not sprayed with herbicides prior to planting. The spacing between the trees

is 13 feet between trees and 20 feet between rows.

Tirat Tzvi was prepared the same way. Here, however, there is subterranean irrigation. Holes were not dug. The water was turned on and where it was wet, the tree was planted. There was no initial fertilization.

3- Soil analysis: This will have to wait. I have sent samples for analysis but have not yet received the results.

4- No fungicides or pesticides have been used on the trees. We were told that Roundup (glyphosate) was not to be used with paulownia trees at any time. The first three years, no chemical herbicides were used. Weeding was done by hand on all three locations. After the third year, the fields were selectively sprayed with Paraquat, the trade name for N,N'-Dimethyl-4,4'-bipyridinium dichloride, Albar super (2, 4, D. Aliette Fosethyl), and Roundup. Care was taken to spray only early in the morning when there was no wind and when the ground was dry.

5- The depth of the water table is very problematic. In both Tirat Tzvi and Toucan, we have had cause to dig down to depths of 13-15 feet and have not hit water. The hydrographic surveys for the area show no underground streams or any water tables. Hoonazir is a different story. There

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is a spring nearby, however, holes dug to depths of 13-15 feet in order to fix water pipes have not hit natural water. It is safe to say that there is no water table that is drowning the trees. All three areas have excellent drainage.

6- Rainfall. We receive an annual rainfall of between 10 - 13 inches per year. The rain starts in December when the trees are beginning their dormancy and ends in late March or early April when the trees are "waking up." The majority of the rain falls in late February and early March.

7- Temperatures, humidity, evaporation rates.

Winter: low temperature: 35 degrees F
high temperature: 80 degrees F
humidity: 20%-35% (high is very early in the morning for a short time only)
evaporation rate: 4-5 mm (0.16 inch to 0.2 inch)

Summer: low temperature: 75 degrees F (at night)

high temperature: 112 degrees F
humidity: 25% - 70% (high is very early in the morning for a short time only)
evaporation rate: 8.5 mm (0.33 inch)

As you can see, we live in a very crazy climate. We use sunscreen on ourselves but we have not done anything for the trees.

8- We planted *elongata*, CHF, *tomentosa*, and *fortunei*

9- When we planted the trees in 2003 and 2004, we used seedlings that were cloned from tissue cultures. From then on (2005, 2006, 2007), we planted trees that we developed from root cuttings. We took root cuttings, planted them in sapling sacks, allowed them to develop for a year, and then planted them. These trees had well developed root systems and took very well when planted in the field.

10- d-slide 15: the Tirat Tzvi trees are planted with the same spacing as the rest of the fields. This field received better weeding care while the

trees were younger. Other than that, I have no explanation for the differences.

i-slide 26: We took a survey of over 100 trees. We took the 5th and the 21st tree in each row and measured height from ground to lowest branch and then circumference at chest level. We then took the formula for diameter= $c/3.14$ in order to find the diameter.

Hoonazir 2004 planting height: 10 ft diameter: 6.11 inches

Toucan 2004 planting height: 9 ft diameter: 4.68 inches

Toucan 2003 planting height: 10 ft diameter: 5.98 inches

Tirat Tzvi 2004 planting height: 12 ft diameter: 5.12 inches

Tirat Tzvi 2003 planting height: 13.5 ft diameter: 5 inches

Fertilizer: We were told that after the second year, there is no need to fertilize the trees. There is no one in Israel who fertilizes after the second year. I made some phone calls to check this out. When I mentioned the things that Zoe'Anna had written, I was laughed at by one and all. My big question is would the addition of chemical fertilizer help at this point? The ground to lowest branch is set for the trees at this point. The only thing that fertilizer might do is add girth to the trees faster, no?

I hope this will provide you with some of the information that you asked for. As always, I appreciate your help as here in Israel, there really is no one to ask or guide. Because I speak relatively good English (being born and raised in NJ....), I have been asked by some growers here to try and arrange marketing logs in the States or in Europe. There is a person here who is planning on building a simple saw mill for the paulownia in 2 years. I spoke with him. He will be doing simple planks from the logs. No quarter cutting or box cutting, just through and through cutting. He will only consider logs that are at least 16 feet of clear log long and 16 inches in diameter. Most of us have trees that are less than those requirements.

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PUBLICIST'S NOTE:

The readers of this month's newsletter will quickly note major differences in the publication's content and may wonder why. Let me allay your initial doubts by suggesting that you thoroughly read the newsletter noting: information and the registration form for our annual conference scheduled for April 17-19, 2008 in Pulaski, Tennessee; the extensive dialogue between an Israeli Paulownia grower and yours truly; an enclosed invoice for your annual dues; and, an enclosed 24 page color primer addressing the cellulosic ethanol production process. The Department of Energy (DOE) Bioenergy Research Centers' primer should quickly capture your interest and excitement as the process is explained in detail by use of exceptional graphics and color. Following your review, I suggest that you log onto the several web sites referenced in the newsletter by your Editor and then let your imagination soar as you reflect upon the many potential ways that Paulownia may assist in the need to provide our great country with the following: clean energy, land reforestation, climate moderation, carbon sequestering, a renewable wood supply, and economic opportunity.

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I look forward to hearing from you and the other "gurus".

Shalom,

Beni

Beni,

Thank you for your rapid response to my questions. I will be patient and wait for your soil analysis results before going too much into possible ramifications of that impact.

Paraquat herbicide is a "burn down" chemical with no residual translocation properties. If it accidentally got on the Paulownia leaves, it would kill the leaves only not the tree.

However, whoever advised you to use any herbicide containing 2-4-D grossly misled you and knows nothing about Paulownia's sensitivity to that chemical. 2-4-D is deadly to Paulownia both as an aerosol application and ground application. It is one of the most toxic substances to any tree with both root translocation properties and ground residual properties. I have personally seen total plantations wiped out by drift from 2-4-D farming applications up to 1 mile away from the site. If for no other reason, the use of 2-4-D herbicide could easily explain loss of tree vitality and even death. This could occur sporadically in your plantation due to such local variances as; percentage clay content, time of day the 2-4-D was applied, the sun exposure following application, amount of herbicide applied over time, amount of water applied (2-4-D is readily moved through the soil in water and does not lose its toxicity when it comes in contact with the soil as some other preferred herbicides), and numerous other factors. Whatever you do, never again apply any herbicide containing 2-4-D in its chemical composition. Roundup (glyphosate) herbicide is safe to use as long as you do not spray the tree stem directly and ensure you do not allow any drift to get on the leaves. I have used Roundup for years in the Fall season (after

the leaves have fallen from the Paulownia) at rates up to 1% solution and have never experienced any problem. Note: If you add a surfactant or use the Roundup Pro, be very very careful since it is much more capable of harming the tree through surface translocation. I recommend that you do not add a surfactant and do not use the Roundup Pro formula to be safe.

It appears that you do not have a natural water level problem; but, may have local drainage problems if your clay content is over 20%. You can check for this by digging 12 inch wide 3 foot deep holes and putting 5 gallons of water in the hole. If it is gone after 30 minutes you are OK. If there is still water in the hole after 30 minutes your drainage is lacking at that particular location. Also, be sure that you allow adequate time between irrigation watering schedules to permit the soil to dry out somewhat. Regardless of drainage adequacy, if the roots sit in damp or wet soil all the time, root fungus/ rot will develop and can seriously harm the tree and may kill it.

Have you noticed any common variances between the different species that you planted. With respect to growth rates for example, P. "tomentosa" would be expected to perform the worst in the climate that you have and P. "fortunei" most likely the best. P. "elongata" should also do well, all else being equal. What is the species "CHF" that you mentioned, I am unfamiliar with that term?

My impression of the average girth growth rate is very acceptable considering your existing spacing. You will need to seriously consider ultimately thinning the plantations to the 20' x 26' spacing to reach the size girth tree for mature harvest. This could be delayed until you notice the average girth declining or the canopy of the trees touch. Since you are having problems with selective trees throughout the plantations, now may be a good time to survey and cull those trees that are not performing well and still provide you the best final layout to achieve your spacing goals.

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You are correct in stating that adding fertilizer at this time will only cause the tree to add bio mass (girth) and shorten you rotation time to harvest, assuming that the soil sample results come back as normal. The trees should likely have an adequate root system by now to permit them to continue to grow naturally. You will need to analyze the cost of the addition of fertilizer and balance it against the extended growing period if none is added and the expected final value received for the timber.

Final note: Our Secretary tells me that you have dropped your membership in the American Paulownia Association. What I have done in responding to your inquiry and further pursuits with the Board of Directors to resolve your problems, are normally reserved for Association members. Please renew your membership and maintain it in good standing so that we may continue to provide you with the member services that you desire and need.

Best Wishes,
Dan Blickenstaff

August 8, 2007

Hello Dan,
Business first: How much are the dues and where do I send the check and to whom? Send an answer and I'll take care of it. That way, there will be no problem with your answering my questions. As always, I learn from your answers.

I have sent soil samples for analysis. I should have an answer in a week or so.

I tried the drainage check: No problem in any of the fields.

My big question is the financial justification to adding fertilizer. Is there a market for the wood? Is the market price high enough to justify watering and fertilizing?

Take care,
Shalolm,
Beni

September 9, 2007

Hello Dan,
I have another question. I found a website that gives conversions for board feet: <http://www.easysurf.cc/lumber.htm#bfc3>
We see the Doyle Log Rule, the Scribner Log Rule, and the International Log Rule. If I input my average log length and average log diameter and multiply that by the number of tree that I have, I get 3 different numbers for total board feet. Which one is the accepted measurement when you want to figure out how much lumber you have in a plantation?

In the meantime, strangely enough, I met two people who have sawmills here in Israel. When I told them that I grow paulownia, they got really excited and asked if I could get them samples of the trees and they want to come and see what I have. And so, there really may be a silver lining

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to some cloud somewhere.... In addition, when I brought in the soil samples to the agricultural field service, the agronomist there got really excited and wants to help.

In the meantime, again, thank you for everything. I truly appreciate the help that I get from you. Again, please let me know how much and where to send the dues so that we can continue according to proper protocol.

At this time, please allow me to wish you and your family a Happy, Healthy, and Prosperous Jewish New Year which will be celebrated this coming Thursday. As we count the years just a bit differently, this coming year is going to be 5768.

Shalom, Beni

September 9, 2007

Beni,

Please send your membership dues (\$50.00 US) to: American Paulownia Association, Inc., 16345 Mt. Tabor Rd., Hagerstown, Maryland 21740 USA. Also include in your correspondence the following information: A complete physical address for mailing; phone number; fax number and any other information that you desire to maintain in our records.

The Doyle Rule is used exclusively in the Paulownia timber and lumber business. The primary reason is that Paulownia has a center hol-

low core that is of no value when cutting lumber and must be removed to achieve a better grade of wood. The Doyle Rule is: [log diameter at small end (inches) - 4] squared; then multiplied by the log length (feet); then divided by the Doyle Rule Standard Constant Number 16

I presented your slide presentation and discussed it with the Association Directors this weekend. I will present this feedback to you after I receive the results of your soil samples.

Thanks for the Good Wishes!

Best Regards,

Dan

October 9, 2007

Beni,

Firstly, Sharon has received your paid membership dues and your membership will be reinstated. You will receive the new membership package and newsletter shortly. Thank you.

I have received the soil sample results and will provide you my assessment in addition to comments that I received from the Association Directors after presenting your slide show to them.

First, the pH at all locations are on the high side but should not have an appreciable effect on the

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normal growth rates and survival rates. To my knowledge, even the most intolerant Paulownia species will survive a pH of 8.0. The high limestone % at all locations surely drives the pH high. My question, how is this percentage calculated and subsequently used. I have never seen it reported on a % basis. What is the basis or comparison point of reference?

From the data submitted, I think that the only long term problem will be the very high clay content of the soil. Normally, we suggest amending the soil prior to planting if the clay content exceeds 25%. This is accomplished by adding gypsum or another inert aeration enhancing compound to add porosity to the soil. Of course this is now too late to accomplish in your particular situation.

You will also have to be careful that you do not over water (irrigate). A high clay soil will retain moisture much longer than a more porous soil and creates a risk of water logging. This may be the reason that you see selected tree mortality occurring on a random basis throughout the plantations. I suggest that you accept this as a normal loss under the circumstances. If you replant these lost trees, I do not suggest that you best consider preparing the site before planting as explained in the above paragraph. I have seen this accomplished by use of a large auger (24"-36") or digging a trench (called a slip trench) with a backhoe and back filling with amended soil or bury organic objects such as brush, old logs or trash wood in the trench before back filling.

Since Paulownia is an aggressive forager, the high clay soil will tend to slow down the trees feeding process and will in fact result in a slower growth rate. In your situation, the growth rate appears to be quite satisfactory under the circumstances, and I would suggest that you revise your business plan model to reflect both your particular geographical situation and soil morphology. The Association Directors also agreed with this assessment after reviewing the growth rates that you are experiencing.

Fertilization routines will of necessity require that you work closely with a soil and plant nutri-

tion specialist. Both the high pH and clay content will have profound effects on the availability of any applied nutrients to the trees. You can waste a lot of money here if you fail to obtain advance professional advice on this issue. They should be able to provide you with very specific suggestions for rates and timing of applications and the subsequent availability of the nutrients to the trees. You then can determine if the cost is worth the gain.

One last issue. If you keep me apprised of your decisions and results, our association Editor and I would like to follow this dialogue up with a full article, including pictures, for our newsletter on your Paulownia plantation experiences. Since you have provided such good pictures and explanations of your concerns, the general membership may benefit greatly from the problems encountered, analysis made, remedies taken, and the final results. Would this be agreeable with you?

Best Regards,
Dan

October 11, 2007

Hello Dan,

1. Thank you for your input. I do appreciate it. Next week I will be meeting with three interesting people: One agronomist who has taken an interest in the trees and wants to make things work; Two people from saw mills here in Israel. One of them is importing paulownia into Israel and has started distributing the wood for use here.
2. Limestone: the lab test is a reaction of CaCO_3 with HCl . This is what the lab told me.
3. Article for the general membership- I will try to put something together to give some additional background. I'll get that to you and then you can publish a full article.
4. The trees that died: You have said many times that I have planted too close together. There should be more space between the trees. I am not going to replant trees that have died; rather, I am going to give the surviving trees more breathing space.

Shalom,
Beni 

Range Fuels, Cellulosic Ethanol, and South Georgia

By Ralph Donaldson

I admit it. I had some old uncles and great-uncles who were moonshiners. It is public record—they served time. And rarely did they claim innocence. But they had to follow a mule in the hot Georgia sun to grow corn to make liquor. They would not have believed that ethanol, as we call it now, could be made from pine tops or logging waste. They would, I believe, have welcomed a raw material not involving plowing a mule.

Ethanol, as a substitute for fossil fuel gasoline, is the hottest item on the American farmfront right now. As I have said, people in my part of the country have been making good corn liquor out of ...corn, for generations. But most did not know that you can burn it to propel your automobile. Some may have fought you for suggesting such a use, but with \$3.00 a gallon gasoline, a lot of corn is now being converted to fuel.

Even in this, the infancy of the ethanol-for-fuel industry, so much corn is being converted to ethanol that upward pressure on food prices is already noticeable. Use of corn for ethanol competes with use of corn for livestock feed thereby driving up the price of corn and feed and meat. Increased prices for corn causes farmers to plant more corn and reduce the acres planted to other foodstuffs, reducing their supply and increasing their price even more.

Corn makes good ethanol, but using it hurts our pocketbooks in other ways—increased food costs. Sooooo...riding in

from Colorado to make ethanol from pine tops, Range Fuels is about the most welcome new neighbor we have in South Georgia. Yes, ethanol can be made from logging waste and Range Fuels is building a plant outside Soperton in Treutlen County, Georgia, to do just that. More information on Range Fuels can be found at www.rangefuels.com.

What does this mean for Paulownia growers? Not much for now, I believe. V.P. Larry Robinson does not expect to ever contract for the growing of wood material for the making of fuel. Sufficient logging waste is available for his plant within easy hauling distance. Mr. Robinson has been informed that if cellulose has to be grown for his process, we, Paulownia growers, can grow it fastest.

The groundbreaking for the plant to eventually manufacture 100 million gallons of ethanol per year was held on November 6, 2007. The APA was represented at this event by members Eric Lawson and Ralph Donaldson.

My uncles would turn over in their graves. 🌳



A Web Site Review

{www.springvalleyecofarms.org}

by

Ralph Donaldson

I've never written a website review. As a matter of fact, I've never even read one written by anyone else. My total lack of experience will probably be obvious, but it also eliminates any bias.

A few months ago Dr. Carl Jordan; American Paulownia Association (APA) member, University of Georgia (UGA) Professor, and moderator of the 2004 APA conference in Dublin, Georgia; wrote and said he had a new website that might be of interest as the subject of a newsletter article. So, I visited the site: www.springvalleyecofarms.org. Wow!

Now, this is not a website dedicated solely to Paulownia. Spring Valley EcoFarms is a unique concept blending private not-for-profit flexibility with major landgrant university resources. Spring Valley EcoFarms has both research and educational missions. UGA students can take courses in ecology and organic agriculture in a setting where they can get some dirt under their fingernails. Non-students can do much the same—even getting university credits if desired.

www.springvalleyecofarms.org has one page devoted to “Trees & Plants.” This page describes some of the work of Dr. Jordan growing Paulownia trees in the Georgia piedmont. Dr. Jordan is a forward-thinking researcher. You may remember some of his experiences related at the Dublin conference, and you may be surprised by others.

The website itself has an elegant balance of text, pictures, and graphic content. I stumble through a lot of internet websites. Occasionally, I will abandon one that is just too difficult or confusing. This site is friendly, informative, and entertaining. I especially liked the slideshow, continuing no matter which page one might be viewing.

www.springvalleyecofarms.org is not just about Paulownia. But it does have some interesting information on Paulownia. Why don't you visit it and learn something new. That is the mission of Spring Valley EcoFarms. And it is not a bad mission for you and me. 🌳



MEMBERSHIP DUES



Annual dues are payable in the Association's office on-or-before February 1. Please remember that your dues are what pay for the publication of the Association newsletter, postage, and other basic costs of operation. Everyone participates at some level. Officers and State Directors serve by donating their time and energies in the conduct of the organization's business, some members provide information for publication, some conduct research, and some host field trips and convention sites to visit. All the while, members pay their annual dues that keep the process moving ahead.

Annual dues remain at a modest \$25.00 US for members residing in the continental United States while those in US territories and foreign counties remain at \$50.00 US.

If you have not already done so, please send your dues in now, by use of the enclosed invoice, and save our Secretary the time and postage necessary to send you a reminder.



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