

**ENE 01-358: Essential Oil Distillation  
for W.V. Herb Growers:  
"A Smell Good Project"**

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1. FNE01-358: Essential Oil Distillation for West Virginia Herb Growers:  
A Smell Good Project

2. Goals:

- a. Will help create an Herb Growing Network for West Virginia farmers.  
Measured by: 25 members by end of the project (3 years)  
Results 2001: 10 growers in Lavender/Lemon Balm group; see Appendix F. Formation of WVHA Herb Growers Network: # unknown.
- b. Will increase market for herbs grown in West Virginia Will install a steady market.  
Measured by: 12 potential buyers of WV essential oils will be identified  
Results 2001: 12 buyers bought hydrosols from La Paix distillation and 2 Potential business buyers identified to date.
- c. Will stimulate traditional/chemical farmers to transition to organic techniques if there is a market.  
Measured by: at least 5 herb growers added to those already growing herbs in WV within two years of the overall project.
- d. Will create the growth of herbs in West Virginia that is a more sustainable agricultural product than corn, beef, tobacco.
- e. Will diversify crops through education of farmers in organic techniques.  
Results: 32 page Growing and Propagation Guide distributed to each of the 10 farmer/growers in the Lavender/Lemon Balm project. See APPENDIX B for growing methods used by growers.
- f. Will probably create a product from here-to-fore disdained bushes (Autumn Olive).  
Results: Autumn Olive hydrosol and e.o. does not smell like the fresh fragrance of blooming Autumn Olive. Research indicates possible antioxidant uses. Have corresponded with Beverly Clevidence and Ingrid Fordham of USDA regarding their research (Beltsville, Md.).
- g. Will allow creativity in the use of by-products of essential oil distillation: mulch, paper, etc. – secondary products become sustainable.  
Measured by: at least 7 by-products created for market from essential oil distillation.  
Results: Many by-products. See APPENDIX D question # 6 for details.
- h. Will stimulate research in efficient lavender and other herb cultivation.
- i. Will create an industry that takes the raw product to value added stage in West Virginia.
- j. Will introduce environmentally friendly, sustainable business that is profitable in West Virginia.
- k. Will create a tourist attraction at La Paix Herb Farm and to the commercial facility at a later date.  
Measured by: 50 more tourists and visitors than visited last year.

3. Update the information on your farm since you received a farmer/grower grant. Include acres farmed, crops/livestock.
  - a. Please see APPENDIX A: Overall maps of La Paix prior to grant, maps for 2001 and 2002 currently and proposed. The farm has evolved from mixed produce and herb plants to primarily lavender and other essential oil plants this year. The previous 19 years of organic cultivation of vegetables and some herbs were compromised by an extraordinary number of ravenous deer. Now, planted with lavender and other herbs, most of the fences have been taken down. Deer do not eat the plants in the unfenced areas. This has resulted in a great deal of \$ and time saved in fence mending, building, electrifying, weedeating etc.
  - b. See APPENDIX B. Starting with about 30 surviving lavandin and lavender plants from the year 2000 plantings, now has approximately 700 plants. (82% survival rate) In addition, over 200 plugs are rooting in winter greenhouse with four lavandin and one lavender mother plants for additional propagation. Six new or renovated garden areas have been prepared for spring 2002 transplanting of lavandin to larger areas.  
In addition, about 200 lemon balm plants have been planted, either as plugs or propagated from existing lemon balm at La Paix.
  - c. Ten other farmers in WV and Pa. are growing out lavandin plugs and lemon balm obtained as part of this grant in August. Approximately 1,548 (54%) plants survive at this time of the 2860 distributed. See APPENDIX B for details of the Farmer/Grower distribution, cultivation, survival rate, observations, comments and questions. Some of these plugs had mold and are being replaced by the Nursery and grown out in one of the member's greenhouses this winter for further distribution in the spring. Others were flooded out as a result of the unusual rain amount in August in West Virginia.
  
4. Who were your cooperators and what were their roles in the project?
  - a. Tom McConnell, WVU Extension Service: Roles in this project was to do outreach to farmers, leadership development and share co-op expertise. Tom got out the word through the Extension web site, speaking with others at the Extension Service. He helped me many times when things did not go as I had hoped – was supportive and also helped monetarily with the workshop on Oct. 7<sup>th</sup> featuring Dr. Arthur Tucker. He always gave good advice and his support was much appreciated.
  - b. Thomas Clarke, Marketing Specialist, WV Dept. of Agriculture. Role: Marketing Specialist. Tom came to one of the Collaborator Meetings and sent information on loans available through Dept. of Ag.; put the Farmer Questionnaire in the Market Bulletin (distribution 60,000) See APPENDIX C.

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He also put the notice of the Oct. 6<sup>th</sup> and 7<sup>th</sup> workshops in the Bulletin but it was distributed too late to garner any new participants.

- c. Cindy & Scott Snyder, Healing Hills Herbs, Co-Chairs Herb Growers Network, WV Herb Association. Came to first two meetings of the Collaborators and then decided that they did not want to be part of the Grant or the project. (\$1000. Was in the grant for their network building needs).
- d. Bruce Lloyd, Extension Agent, Lewis County: Role: Lewis County Outreach. Bruce put several notices about the project in the County Extension newsletter, gave me sources for Autumn Olive harvesting, came to some of the Collaborator meetings, made the Extension Office open for one of the meetings and was supportive and helpful when I needed advice. One Lewis County farmer came to the Oct. 6<sup>th</sup> and 7<sup>th</sup> workshop.
- e. Sue Cosgrove, Certification Coordinator, Mountain State Organic Grower and Buyer Assoc. Role: Innovation Research and Outreach. Sue, as usual, was quite inventive in thinking of ways to use spent products from distillation: see APPENDIX D. She was also supportive in many other ways. She told many people of the project and steered four or five to the Oct. 6<sup>th</sup> and 7<sup>th</sup> Workshops.
- f. Connie McColley, Poplar Forest Craft Cooperative. Role: Consultant, Advisor. Connie was quite enthusiastic at first, but never attended any meetings and did not reply to email updates on events which I sent her. She had pledged \$450. to fund one of the speakers Oct. 6<sup>th</sup>, but one week before the workshop stated that her Board had decided not to fund it. She did distribute brochures on the Oct. 6<sup>th</sup> and 7<sup>th</sup> workshops at the Cooperative and several people came as a result. She indicated in August that she no longer wanted to be considered a Collaborator, as this project did not conform to the Board's specifications.
- g. Judith Vojik, WWC. Role: Worker in gardens and distillery/apprentice. Judith had indicated that she wanted to return to La Paix in 2001 (she was an apprentice in Summer 2000 and had returned quite a few times with other WWC students in the Fall and Winter – see her on my web site [www.lapaixherbaljourney.com](http://www.lapaixherbaljourney.com) posing with some other WWC students with the essential oil distillery). However, she obtained more lucrative employment in Baltimore and sent a friend, Carrie Liller, also of WV Wesleyan College, who apprenticed in her stead. Carrie helped with weeding the lavender, in the shop, and with the demonstration of the distillery at the Sustainable Fair 2001. She also participated in distillation of plants while at La Paix.
- h. Kate Walsh, U. of Pitts. Role: Worker in gardens and distillery/apprentice. Kate recv'd 3 credits in her major Environmental Education at U. of Pitt for

- i. her work on the farm from mid May until early August. She was invaluable and planted at least 500 of the lavandin plugs herself; weeded; labeled, distilled, demonstrated the distillation, personed the La Paix booth at the Sustainable Fair and was an all-round helper in all aspects of the Grant.
  - j. Another collaborator was added in August. Cassandra Nelson-Dooley, an August graduate of U. of Ga. In Ethno-botany worked in the gardens at La Paix for over a month as an Apprentice at La Paix. She assisted in distillation and was quite helpful in laboratory procedures, as she had completed 3 chemistry class at the U. of Ga.
5. Tell us what you actually did in your project and how it was done.  
This is very difficult as so much was done and the methods were varied. I will do my best to summarize.
- a. Preparation of beds, planting and cultivating 860 lavandin and lavender plugs and plants in 2001. Further preparation of six additional planting areas to transplant plugs to in the spring of 2002. Mulching of all beds. Research and preparation of winter covers – bamboo and re-may in some beds to determine efficacy of winter cover for lavandin and lavender.
  - b. Preparation of beds, planting and cultivation of 200 plus lemon balm plants. Propagation of lemon balm. Peppermint bed added.
  - c. Propagation of both lavandin and lemon balm – 208 plugs of lavandin prepared in September; all doing well and rooted well this date – Nov. 2<sup>nd</sup>, 2001. In greenhouse of glass further covered with plastic. Mother Plants of lavandin and lavender also in greenhouse.
  - d. Research & Education: Took 60 hours and completed at Australasian College of Herbal Studies in Provence France, July 2001: studied chemistry, propagation of lavender and other e.o. plants, distillation. Research (uses, storage, cultivation, distillation methods) conducted on autumn olive, hydrosols, distilled herbs (see APPENDIX E ), lemon balm, lemon grass, peppermint, catnip, witch hazel, perilla, lavender, lavandin, lemon verbena. Files kept on each research study. Consultation with Robert Siedel of The Essential Oil Company on regular basis. Notes taken and filed.
  - e. Distillation of plants: Copious lab notes taken for each distillation; summary in APPENDIX E Consultation with Robert Siedel, Art Tucker and other experts on distillation methods and practices. Developed new techniques for more efficient distillation.
  - f. Built side patio to Shop to install Essential Oil Distillery bought from The Essential Oil Company.
  - g. Met with Collaborators three times; one set of minutes in APPENDIX F.

- h. Formed 10 member Lavender/Lemon Balm Farmer/Growers Network (APPENDIX G) when WV Herb Association decided to go its separate way. Published Questionnaire on my web site and in State Dept. of Ag.'s Market Bulletin (circulation 60,000). Invited those sending in Questionnaire to La Paix for an overview of the Project. After advice from Collaborators, requested change in Grant (from the \$1000. originally to go to WV Herb Association Herb Growers Network for forming grower's group) to buy 2860 plugs to distribute to those attending the Overview meeting who decided to grow lavender and lemon balm for research purposes. Assembled 32 page booklet of propagation and uses of Lavender and Lemon Balm and distributed to the 10 growers who picked up their plugs at La Paix. Kept in contact with growers; designed research format and collected data as to success/failure in growing out plugs (see APPENDIX B).
- i. Organized Propagation and Distillation Workshop Oct. 6<sup>th</sup> and 7<sup>th</sup> with nationally known experts (see APPENDIX H) for brochure). To distribute brochures and alert potential attendees, attended conferences, distributed brochure that I designed, sent out Press Releases. When registration was low, re-designed Oct. 6<sup>th</sup> workshop to field day at La Paix with talks by Maureen Rogers of the Herb Growing and Marketing Network on Marketing Your Herbs and Katherine Adam of ATTRA on Lavender as an Alternative Crop in the United States.
- j. Canceled Robert Seidel and Dorene Peterson's workshops on Oct. 6<sup>th</sup>. with their complete understanding and support due to lack of registration and airline problems after Sept. 11<sup>th</sup>.
- k. Hosted and wined and dined all speakers for Oct. 6<sup>th</sup> and 7<sup>th</sup>. See APPENDIX I for letter from Katherine Adam of ATTRA.
- l. Demonstration of Essential Oil Distillery:
  - 1. April 11<sup>th</sup>, 2001: Charleston, WV, Garden Festival.
  - 2. April through October 2001: Demonstration to various groups, individuals and growers of plant material (who brought material for distillation for 1/3 of the product obtained) at La Paix Herb Farm.
  - 3. July 27<sup>th</sup>, 2001: 2<sup>nd</sup> Annual WV Sustainable Fair, WV Wesleyan College, Buckhannon, WV (For details see web site: [www.lapaixherbaljourney.com](http://www.lapaixherbaljourney.com), click on Sustainable Fair.)
  - 4. Oct. 21<sup>st</sup>, 2001: 10<sup>th</sup> Annual WV Herb Association Conference: Demonstration, Workshop and Slide Show.
- m. Public Relations: Six or more press releases sent to various media. Published in many newspapers in state, TV coverage of Overview Meeting with potential lavender growers. See APPENDIX J for some examples. National coverage in Australasian College of Herbal Studies,

- Herb Growing and Marketing Network, ATTRA and other web sites, Oct./Nov. issue of Herb Companion magazine.
- n. Web Site designed with E.O. in mind. My web site was redesigned to feature the Essential Oil Project and will be renovated again in December to reflect current progress. A photographic record of both The Provence class and the gardens at La Paix was made – over 20 rolls of film and some slides were processed. See APPENDIX K for a few representative photos.
  - o. Two grants written to stimulate market survey of potential for lavender and other e.o. products in WV area. Submitted to Harvest First in August. No word yet as to results. The first grant was for a market survey of Potential buyers. The second grant was for a Farm Tour in 2002 for potential buyers and the model for this grant was shared with the other lavender growers.  
Three other growers (Melissa Dennison, Scott and Barbara Weaner and Elaine Ferry) submitted a similar Farm Tour in 2002 Grant based on mine.
  - p. Value Added Products; Creative Uses for Spent Plant Material. Consulted with Sue Cosgrove and Melissa Dennison frequently; researched in France what was done with spent material. See APPENDIX D.
  - q. Prepared preliminary summaries of Tasks Accomplished, four budget requests and this Report.
  - r. Answered all email requests as a result of my web site. Began correspondence with Mass. And Md. Lavender/distillers.
  - s. Researched and developed list of suppliers of bottles, packaging materials.
  - t. Created all my own labels for hydrosols, value-added products – tent cards for conference table – redesigned booth to reflect Provence colors.
  - u. Bottled, labeled and exhibited hydrosols in shop. Learned sanitation techniques. See Susan Catty, Hydrosols, The New Aromatherapy.

6. What are your findings and accomplishments? Did you have unexpected results? If so, what were they?

Findings and Accomplishments: I believe that has been covered in the above material. For value added uses of lavender and spent distillation material, see Appendix L.

Unexpected Results:

- a. WV Herb Association's withdrawal from project. Still don't understand this. I understand they wanted independence in order to pursue their own essential oil distillery project and grants. This is fine with me – I always



wanted them to have the larger commercial distillery anyway. I wish them well.

- b. CEO group pulled out from support. This group has had financial difficulties and I understand their need to withdraw at the present time. They have offered to feature the hydrosols from La Paix in their store in Charleston and I expect to follow this up after writing this report....
  - c. Hardly any essential oil from the distillery. As a result, I did a lot of research on the hydrosols I was getting a plethora of. Hope to develop this as a value added product. Also am researching and consulting to find out how to get more e.o. from distillations.
  - d. Collaborator Connie McCulloh's withdrawal from project. I think I have realized that I depended too much on other's support and enthusiasm – and from now on, I will be much more careful of communicating clearly what I have in mind and listening carefully to support offered – and getting it in writing.
  - g. Realizations that this project is going to take longer to put into place than first thought. Lavender takes 3 years to mature enough to make a good amount for distillation. So far, not enough is known to contemplate installing a commercial size distillery. And, not enough farmers are growing the herbs needed for even a small sized distillery such as mine. My ability to ride with the punches. I realize that I am capable of flexibility and perseverance when things get rough.
7. Did any site conditions, conditions specific to your farm and this growing season, affect the outcome? Please see Appendix B.
  8. What were your economic findings, if any?  
Please see Appendix G.
  9. Have the results of your project generated new ideas about what is needed to solve the problem you were working on? What would be the next step?
    - a. Hydrosols as a Viable Value Added Product. The problem with hydrosols is that they need special conditions to remain stable for a year or more – sanitary bottling and refrigeration. I have visited a commercial kitchen store and priced the type of refrigeration display case recommended by Susan Catty, author of Hydrosols, The Next Aromatherapy. The unit would cost over \$1200. She suggests supplying each store sold hydrosols with a display unit. This is way too much money as far as I can see. The only other way to distribute is to distribute in large one-bottle quantities, which can be refrigerated and then bottled only when bought. The buyer would then be responsible for refrigeration upon receipt of the

hydrosol. This would also mean special labeling needs under refrigeration. Perhaps it would be feasible to put expiration dates on each bottle – and turnover would have to be within a month or so, assuming refrigeration after purchase. All this needs to be explored.

b. Small amount of essential oil derived from distillations.

1. Various methods and techniques of distillation for more e.o. need to be experimented with. This includes possible modification of distillery.
2. Need research on amount of e.o. to be expected from various plant materials.

3. Research needed on various large distilleries, their input, output and how they work.

c. Catastrophic loss of plugs by some farmer/growers. Lack of knowledge among Extension Agents on Growing Plants for essential oil distillation.

1. Continued on- farm research needs to be conducted over another two years in order to determine the best lavender plants for WV, the best propagation methods, the best soil type and exposure, mulch types, winter cover needs, mold inhibitors etc. Need to determine what other plants for distillation grow well in WV
2. Publish manual for use by growers and Extension Agents on results of research above – a Guide for Growing Lavender and other e.o. plants in WV for distillation.
3. Ascertain possibility of working with Tom McConnell of WVU Extension on training Extension Agents in aspects of growing plants and distillation of essential oil.

d. Not enough plant material, particularly lavender, for my distillery

1. Need to have more farmers growing lavender and peppermint –
2. Need to enlarge own plantings at La Paix.
3. Need to distribute more plugs to potential farmers
4. Need to develop contract for buying/sharing farmer's plant material for distillation
5. Need to distribute plugs replaced by Nursery and now in Melissa Dennison's greenhouse in the Spring to growers who lost plugs due to mold.

e. Need more value-added, spent material product ideas. See Appendix K Research, brain storming needed on these products.

10. Will you continue to use the practice you investigated? Why or Why Not?

Yes, my growing practices have been good so far, and I think my results are good. However, I would like to continue to experiment, especially with mulches and winter cover.

11. Explain what you did in your outreach program. Please send a copy of any articles written about your project.  
Please see # 5 n. and Appendix J. I cannot send all, as some press releases were published and I did not get a copy – only confirmation by telephone inquiries.

- 12, Myra Bonhage-Hale, Steward



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Nov. 3, 2001

50  
lavandin  
2002

Big Garden  
(see details - 680 plants  
2001)

2002: approx 250  
plants

Feng Shui Garden  
Lemon Balm



About  
60 lavandin  
plants  
2002  
prep9-01

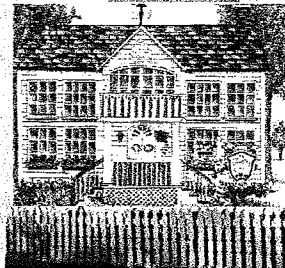
Shop &  
Distille-  
ry  
Patio

About 200  
lavandin  
plants  
2002 with daffodils  
in spring

Green  
house



25 lavin-  
din  
2002



12 lavandin plants  
around solar  
fountain Spring  
2002

Bridge

50  
lavandin  
2002

25  
lav-  
din  
2002



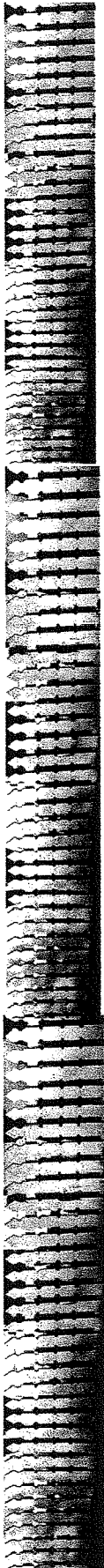
- 250
- 50
- 25
- 60
- 200
- 25
- 12
- 26
- 668 plants

Road  
to  
La Paix

Nine  
rows  
contain-  
ing 26  
Grosso  
lavandin  
plants  
Sept.  
2001

# La Paix Herb Farm Overall Plan 2001-2002

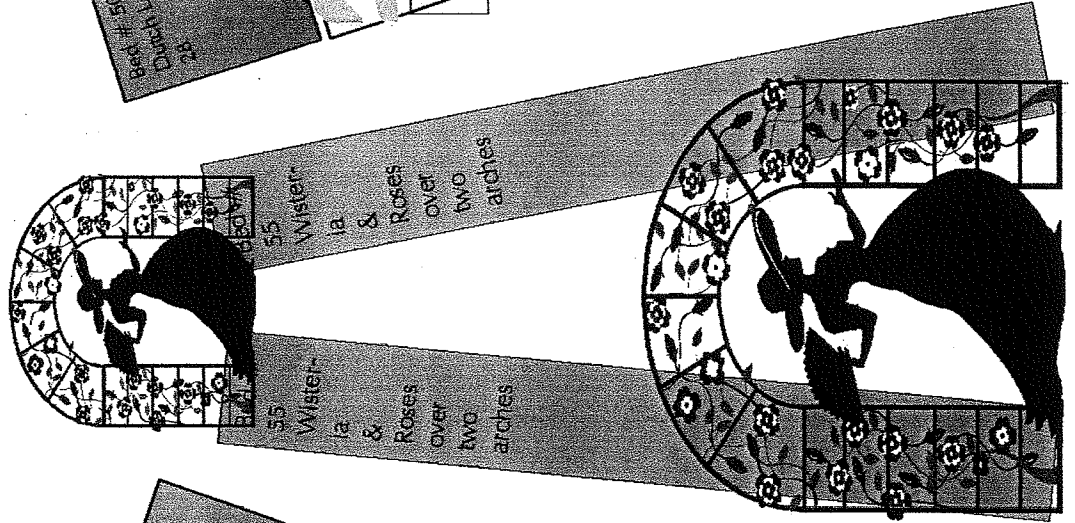
Beds # 53 and #54: Vegetable Garden #54 east: l to r: green peppers, basil beans tomatoes, potatoes (rr kale 9-8-2001  
 # 53 west: l to r: cilantro, marigolds, basil, Tomatoes blank Potatoes



Bed # 51  
 Good Creek Gray Lavandin

Bed # 47  
 Goodwill Creek Gray Lavandin

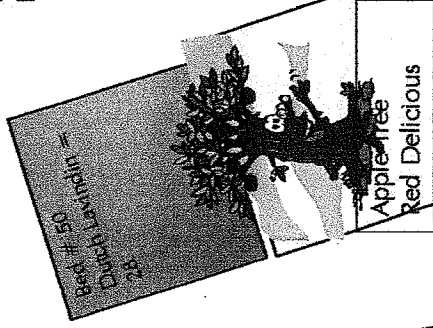
Bed # 45  
 Empty



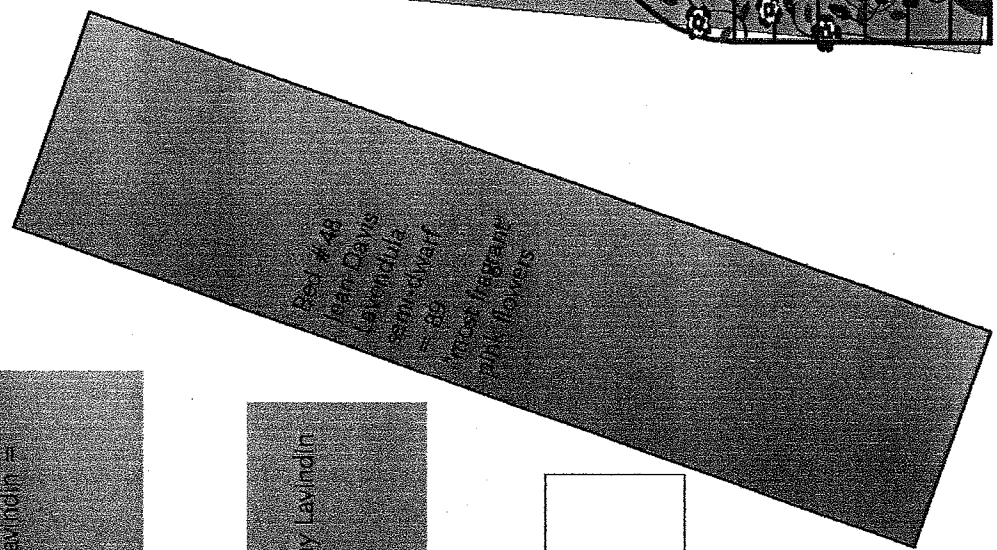
Bed # 52  
 Dot's Lemon Balm

Bed # 51  
 Empty

Bed # 46  
 Dot's Lemon Balm



Bed # 49  
 Dot's Lemon Balm



# Research Summary

## WV Lavender & Lemon Balm Growers

### Essential Oil Distillery Project 2001

Name, Address, Contact Info.	Type	Lavender	Lemon Balm?	Planted Within	pH	Augment?	#Sun Hrs.	Fungus or Mold	# Plants Begun.	Sept. 10th # Plants	Size 9-10	Raised Beds / Drainage
1. Joann Huffman Reed Mountain Farm 136 Hoist Rd. Beckley, W.V. 25801 (304) 253-3537 peggyjo@hotmail.com	White Provence		N/A	3-4 days	5.	Not yet	7-8	None None	105 105	83 94	4-5" 4" avg.	No raised beds, but dry soil
2. Melissa Dennison Garden Treasures HC 69 Box 30 Clem, W.V. 26623 (304) 364-5589 gardentreasures@ hotmail.com	Grosso Dutch		Yes	2 days 2 days 11 days	5.5- 6 5.5- 6	Limed with pellitized lime 15-20 lbs./20' x 35' area	full sun	Dark leaves in both	105 105	85 85	1-1/2" taller	sloped area, soil dry and rocky
3. Johanna Harter 2 Triple j HC 62 Box QQ Pine Grove, W.V. 26419 (304) 88-3317 jharter@ovis.net	Grosso Dutch		Yes	2 days	No reply from Ext. office	No	full sun	Yes	105 105	7 5* *see observ- ations		*Planted on slope; big mistake - hard rains came - rocks used as mulch carried plants down the slope damaged others.
4. Barbara & Scott Weaner Rolling Thunder Organics Rt. 2 Box 96 Montrose, WV 26283 (304) 478-2123 sweaner@neuimedia.net	Provence		N/A	4 days	6	limed in Spring of 2000	full sun	no deaths but 10- % have 3-4 bla- ckened leaves at base	210	210	Growi- ng	Planted at field's edge, no raised beds, good drainage Mulched with black landscape cloth.

# Research Summary WV Lavender & Lemon Balm Growers

Name, Address, Contact Info	Type Lavender	Lemon Balm?	Planted Within	pH	Augment?	#Sun Hrs.	Fungus or Mold	# Plants Begin.	Sept. 10th # Plants	Size Sept. 10th	Raised Beds/ Drainage /Mulch
5. Sue Cosgrove Leelun Farm HC 88 Box 145 Chloe, W.V. 25235 (304) 655-9950 wwwheat@yahoo.com	Dutch Grosso	N/A	2 days	6.3	Dolomitic lime-stone 20lbs/	7 hrs.	Fungal infestation on receipt	105 105	26 73	4-5" 4" avg.	Raised beds. Mulched with white material.
6. Elaine Ferry Arcadia Retreat & Herb Farm HC 66 Box H Big Springs, WV 26137 (304) 477-3299 arcadiaherb@yahoo.com	Provence Dutch Fred Boutin	N/A	2-6 days	?	450 sf Limed unspecified amount July. Bio dynamic barrel compost & #500	?	Severe fungal growth on all. Pot bound roots removed. Med. tumor scored.	105 105 105	35 5 14* see observations	Provence: 5-1/2" good looking healthy plants Dutch: 1 Boutin: Spindly, but growing 3-1/2" tall.	1/3 each flat planted in black plastic, 1/3 in white netting, rest in leaf mulched bed with leaves kept 3" away from plant base. Exception Dutch: only 30 planted in a raised bed with no mulch due to severe fungus.*
7. Sandy Mills Whisper Valley Farm 136 Holist Rd. Beckley, WV 25801 (304) 252-1820 rodyoungblood@cs.com	White Provence Fred Boutin	N/A	3-4 days	5.0	Spring Not yet	7-8 hours full sun	No	105 105	101 93	Provence: 4" avg. Boutin: 4-4-1/2" tall New growth, bushy new leaves on both	No raised beds, but drys oil
8. Patrick Keely Rt 2 Box 99 Camden, W.V. 26338 (304) 269-4940	Provence White Provence	Yes	6 days	?	None	South facing terrace hill	Proven- ce	105 105 105	85 105 105 lemon balm	Growing well	Sheet of black plastic mulch kicked up by wind covered plants, may have harmed them, may snap out.

# Research Summary WV Lavender & Lemon Balm Growers

Name, Address, Contact	Type Lavender	Lemon Balm?	Planted Within	pH	Augment?	#Sun Hrs.	Fungus or Mold	# Plants Begin.	Sept. 10th # Plants	Size Sept. 10th	Raised Beds/ Drainage /Mulch
9. Dawn Holden Straight Up Farm Rt 2 Box 7a Burnt House, W.V. 26178 (304) 349-3320 serenity@ruralnet.org	Grosso White Provence	Yes	3 days	6.7	Hydrated lime 1/4 lb. under 2 small plots-w-ill transfer to larger area in Spring 2002	8 hrs. full sun.	? Don't think so	105 105 105	8 Grooso 36 White Provence 103 lemon balm	Lavandin just side shoots	No raised beds; temporary planting in regular garden where had potatoes and onions earlier. Reasonable drainage most of the time but the 2 floods didn't let any of the soil here (even on hillsides) dry out. It was just incredibly bad timing to set out the plants.*
10. Terry Morse & wife Alpine Acres 421 Alpine Rd. Warfordaburg PA 17267 (717) 593-4415 knife-corner@hotmail.com	Dutch Fred Boutin	NA	?	6.5 6.8 on elec- tronic pH tester	No	south facing hillside	20% loss Dutch to fungus and/or heat	105 105	Dutch: 85 Boutin: 105	average 5"	Plowed and disk tilled area 80' x 10'. After rain, put down black plastic mulch.
11. Myra Bonhage-Hale La Paix Herb Farm 3052 Crooked Run Rd. Alum Bridge, W.V. 26321 (304) 269-7681 lapaix@iolinc.net www.lapaixherbaljourney.com	Jean Davis (lavendula) Dutch Goodwin Creek Gray Seal Grosso Maillette	NA	1 to 10 days	?	6 beds each 4' by 10' 8 lbs lime /bed 13 beds augme- nted w lime at time of planting	7 to 8 hrs.	Goodwin in Creek Gray: black on bottom of plants: lost about 80	Jean Davis: 105 Dutch: 105 Goodwin: 210 Seal:110 Grosso: 210 Maillette: 33	89 103 166 144 178 15	<b>Planted out in May/June</b> all but Jean Davis (semi dwarf) avg. 1' x 1'	Mulched with rocks or slate. Six beds prepared for 860 plugs. Double dug and limed and composted early spring. Thirteen more beds needed not double dug/ side dressing of lime 3" deep.



# Research Summary

## WV Lavender & Lemon Balm Growers

Name	County	Additional Observations, Comments, Opinions and Planting Data	Questions?
1. Joann Huffman Reed Mountain Farm		<p>White Provence and Provence: They both seemed to take a while to get started, but now have new growth, and have grown a couple inches with bushy new leaves on them. The Provence is about 4 inches average and the white provence is 4 to 5 inches tall. Most are doing very well, there is a few runts still, but they show new signs of life as well.</p>	<p>#1 Do I need to use powdered lime on my already planted lavender if I am going to use limestone for mulch for this winter?</p>
2. Melissa Dennison Garden Treasures	Braxton	<p>I planted in an area that is sloped. The soil is dry &amp; rocky..That area is a shell base of the coal in the mountain. It's very rocky, full sun. I put black plastic down and planted both kinds in grouping; on Aug. 3rd &amp; 4th. Ok. The first week was the hottest and I had about 1/3 died. I took the dark leaves off the seedlings when I planted. I believe it weakened them even more. I watered for about 2 weeks. Now 8-22 - all started looking better. The are healthy and growing. Lemon Balm "Melissa" planted on the 11th in full sun. I did no special ammendment. It is all beautiful and healthy and about 1-1/2" taller.</p> <p>We planted on a slope. I think it was a big mistake. The hard rains just carried dirt down the slope oer the plants. Also rocks used to surround the plants were carried down the slope damaging many plants. The remaining few plants look good. 5 -6 inches tall and bushier. We plan to move them to a better location. I was just devastated to see the plants die. We worked so hard to get them planted quickly.</p>	<p>#2 Has anyone else mulched with white material, ie sand, rock, pebbles, perlite, etc.? I plan to experiment with the declining plants using shavegrass infusion and chamomile infusion to fight the fungus. Shavegrass is anti-fungal, and I regularly use chamomile tea to water seeded plants which prevents damping off. Additionally, old-timers used to use diatomaceous earth to prevent brown rot in peaches. I have a theory that it may also be effective against this fungal problem. I believe Kaolin clay has anti-fungal properties. It is used extensively in orchards for a number of problems and I understand it enhances photosynthesis also. The clay can be purchased in the product called "Surround." Contact you county extension agent for more info. I plan to try D.E. as a control with the shavegrass and chamomile. Will keep you advised of results.</p>
3. Johanna Harter 2 Triplej		<p>Held plugs in greenhouse until planted 4 days later.</p>	
4. Barbara & Scott Weaner Rolling Thunder Organics		<p>Received lavender evening of August 2, mowed, limed, tilled site August 3,4, dug beds August 5, planted August 6, 7, 8. Several plants of each variety had apparent fungal infestation on receipt. Of the healthy plants by Aug. 27th (Dutch 14 Grosso 56) there was good growth, no browsing by pests. Most of healthy plants at least double in size.</p> <p>The second question on the right is Sue Cosgrove's</p>	
5. Sue Cosgrove Leejun Farm	Calhoun		

# Research Summary

## WV Lavender & Lemon Balm Growers

Name	County	Additional Observations, Comments, Opinions and Planting Data	Questions?
6. Elaine Ferry Arcadia Retreat & Herb		<p>I received one flat each of Provence, Dutch and Boutin on 8/4/01. The plants looked fine but dry at La Paix. On arrival home late that evening, I bottom watered the flats with water and chamomile tea. I did not get to plant till 8/6. Seedlings were placed in dedicated beds according to variety. The beds had biodynamic barrel compost and #500 applied in the Spring and Lime in July in preparation for the lavender. My plan was to decrease weeding and increase winter survival. One third of each flat was planted in black plastic, one third in white netting, the rest in a leaf mulched bed with leaves kept 3 inches away from the plant base. The exception was the Dutch, only 30 were planted in a raised bed with no mulch due to severe fungus problems. When removed from the flats (all varieties) most of the lower leaves had to be pulled and a white powdery coating scraped from the planting medium with a knife. The pot bound roots were removed and the medium scored. All plants with massive fungus on the roots and more than 50% leaf die off were discarded (majority of Dutch, 1/2 of Boutin, some Provence). Since the ground was damp and rain expected, I did not water. All seedlings not planted that day were removed from the flats due to massive root overgrowth, and heeled-in in garden soil, for planting over the next few days. Each day, several more plants were pulled due to fungal regrowth and die off. Planting holes were never reused. It rained each evening till the plants were in so I never watered. I left for Pa. on 8/23 and returned late 8/31. My inspection on 9/1 revealed some kind of pest had got in the lavender beds. The plants were cut off at ground level. Most tops lying next to where they were growing, others shredded and in piles. Still other plants were dead in place, white and wilted with fungus, except for six Provence cut off in one corner of the plastic bed, the cut plants were in the white and mulched beds. Root balls were also dug up and dried out. None of the plants in the white netting or in the mulched beds survived. Netting was pulled off the ground and torn up. Conclusion: I am very distressed about the amount of work to prepare the beds and plant to have such dismal results.</p> <ol style="list-style-type: none"> <li>1) I would hope if there are future grants for plants a different supplier could be found due to the pervasive fungus.</li> <li>2. I had no idea there were animal pests. I don't know what animal would cut off and dig the plants but evidently not eat them. Whatever it is it sure is attracted to white!</li> </ol>	

# Research Summary WV Lavender & Lemon Balm Growers

Name	County	Additional Observations, Comments, Opinions and Planting Data	Questions?
7. Sandy Mills Whisper Valley Farm		<p>Most plants are doing well, and there is a few runts still, but they show new signs of life as well. The Provence is growing better.</p> <p>And to let you know, I planted mine with Joann's for this winter because our farm is one hur away and I wanted to watch them closely while they were little. They all seem to be doing well, and I am getting a pH test done. I haven't received our agriculture pH report yet, and all are doing fine. We haven't seen trace of fungus or pests, but they do seem to be growing slow, but they are growing! And as far as I can tell, none of them have died.</p>	<p>Do I need to use powdered lime on myalready planted lavender i I am going to use limestone for mulch for this winter?</p>
8. Patrick Keely	Lewis County	<p>Didn't have a prepared bed, so tilled, no lime or soil test and no ammendment. Black plastic mulch 50' by 20'. Used post hole digger to cut holes. Lemon Balm is thriving. Lavender "rocking on" - getting tall and broad. Patrick is also growing yellow root (goldenseal) and black cohosh. More of his dutch were effected but hby fungus but have recovered.</p>	
9. Dawn Holden Straight Up Farm	Ritchie County	<p>Sorry this tok me so long. I just got so depressed at the disasterous flooding and the toll it took on everything here. (I lost several plants that wee in pots in the yard. They washed into the blueberry orchard and then down the creek. I was searching for 2 days to retrieve any pots I could find. It was a mess. When I got back to the lavender and lemon balm, the lavender looked dead. I just couldn't face having to report such a failure. I have always had such good luck with plants and this was an amazing slap in the face. But I am trying to not take it so personally. Ha. There is reasonale drainage most of the time in the plot where I grew the lavandin, but the 2 floods didn't let any of the soil here (even on the hillsides) dry out. It was just incredibly bad timing to set out plants.</p>	
10. Terry Morse Alpine Acres		<p>Watered for first two weeks until sufficient rain. If there are any other questions, please send specific info requested to: knifecorner@hotmail.com (Terry's new e-mail address).</p>	

# Research Summary

## WV Lavender & Lemon Balm Growers

Name

County

Additional Observations, Comments, Opinions and Planting Data

Questions?

11. Myra Bonhage-Hale  
La Paix Herb Farm

Total Sept. 10, 2001: 680 plants left of 840. They were planted in May and early June over a week and 1/2 period of time. The Goodwin Creek Gray which had a mold or fungus in one bed was the last planted. Lost about 1/2 the bed- about 30 plants. Lost about 25 Grosso due to dogs (one blind) favoring that bed for running through. I watered the plants once when it had not rained for two weeks in late June, but only then as we have had appreciable rain all spring and summer. **Survival Rate 82%**. I was worrying about putting up a wind barrier until Dr. Arthur Tucker visited on Oct. 6th and told me that lavender loved wind and air circulation between it and that was the reason my Maillette had succumbed to **pithian wilt** - **from too little wind and air circulation**.. I took 28 Grosso out of the Big Garden because they were so overcrowded in early September and planted them on the south facing hill in front by my road to the house. They were about 1 foot high and 1 foot wide and their roots went down longer than my trowel- I planted them with a handful of lime in each hole and 1/3 gal. of herb fertilizer water with Rescue Remedy drops in it. They wilted a bit at first, but now all but one look fine at this writing (Oct. 25, 2001). There is a windbreak from the pines west of them. Made **208 plugs** of various lavindins Sept. 11th (root day) - they look good. Used willow water on stems - 1/3 of cutting was de-leaved and put in potting soil. Put one of each type lavandin and lavendula in pot in greenhouse last week for a mother plant. in greenhouse. Mulched with clay fritter (kitty litter as per Art Tucker, Big Book of Herbs.). Talked to someone from Garret Co. in Md. at the Stonewall Jackson Jubilee Craft Show (Garrett Co. is an iffy 5.5 zone) and she **puts pine boughs over her lavender in the winter** and finds it works very well.

### **Where to plant approximately 500 lavandin now in Big Garden and overcrowded:**

I have had bad news (in a way) THAT MY NEIGHBORS NOW HAVE DECIDED (THEIR 20 ACRES AMONG 12 INHERITORS AND ALL ARGUING AMONGST THEMSELVES) - I am just an innocent bystander - that I cannot use their hill which is west of my house on the north side of my roadway facing south to plant my plants next Spring. This would have been an ideal site, albeit expensive to develop. My nearest neighbor, a member of the aforementioned family, says I can plant my lavender in his field (he uses no pesticides or herbicides) if I have it brush-hogged and prepared, but I could not see it from the house and this made me uneasy.

So, in September, I plotted out many new areas (made visual graphics out of entire area - see Appendix \_\_\_ ) in which to transplant the 500 or so lavandin plants in April when they are still dormant (the best time a/c to Dr. Tucker.) Watching the sun closely all day - I picked out six more sites - four of them are ready for Spring, having been weeded, limed, newspapered or cardboard covered. Two others still have to be done, one of which involves moving a dog run. All the lavender but the maillette which has great malaise (don't think they will last the winter) look good and hearty.

# Do you want to Wholesale Lavender & Other Herbs?



*I have a dream. For many years, I have thought it would be wonderful if some of my herbal products could be produced with all West Virginia components. So many of us have to buy all or most of our creation's components out of state. Few finished products are produced in W.V., resulting in our being characterized as a third world country. For instance, many massage therapists, aromatherapists and herbalists in West Virginia use essential oils bought outside W.V. But many West Virginians can and could grow the raw product to make essential oils. Lavender is a good example because it is not eaten by deer. I want to help form a COOP of W.V. organic herb growers who will either trade or sell their raw product to be made into an essential oil in West Virginia. Those who wish to trade would receive back a certain percentage of the essential oil derived from distilling their product.. They could then use this W.V. essential oil to create their final product.*

*To start, I am working with farmers (e.g. The Herb Growers Network committee of the WV Herb Association has already endorsed this project) interested in growing herbs organically for this purpose.*

*In 2001, I expect to be obtaining a demonstration model of a small essential oil distillery. Using herbs from my farm and others, I will be distilling essential oil. Growers who would like to see the process are invited to La Paix Herb Farm. (The model is also small enough to be carried to other sites for talks and demonstrations.) As I have been conducting tours and workshops here for the last ten years, visitors to the farm will also see this demonstration. If growers want to display their finished products made with W.V. essential oil in my shop on consignment, this could also be part of the Pilot Project. I will continue to work with herb growers to form a workable network. Experts will conduct workshops on Growing, Harvesting and Shipping Lavender and other herbs,*

*Further along in the project, I hope to work with the Grower's Network to obtain a large commercial distillery located in a convenient, central location, staffed by salaried workers. Seminars will be held on processing essential oils. Workshops on marketing and establishing a cooperative will be held. A fully functional Cooperative is envisioned to oversee the entire operation creating a truly sustainable business.*

**COME SHARE MY DREAM. PLEASE FILL OUT THIS QUESTIONNAIRE !**

**Myra Bonhage-Hale, Steward, La Paix Herb Farm, Alum Bridge, W.V. 26321**

## QUESTIONNAIRE

1. Are you growing lavender now?.....1. Yes \_\_\_\_\_ No \_\_\_\_\_  
 a. Organically?..... a. Yes \_\_\_\_\_ No \_\_\_\_\_
2. If so, how much?.....2. Lbs. \_\_\_\_\_ #plants \_\_\_\_\_
3. Are you willing to sell it for prevailing wholesale rates?..... 3. Yes \_\_\_\_\_ No \_\_\_\_\_  
 a. Would you prefer receiving a percentage of the essential  
 oil derived from your produce instead of payment?..... a. Yes \_\_\_\_\_ No \_\_\_\_\_
4. Would you sell it fresh?.....4. Yes \_\_\_\_\_ No \_\_\_\_\_
5. Would you sell it dried?.....5. Yes \_\_\_\_\_ No \_\_\_\_\_
6. Would you bring it to La Paix Herb Farm (Alum Bridge, W.V.)  
 for processing?.....6. Yes \_\_\_\_\_ No \_\_\_\_\_
7. If you are not growing lavender now, would you be willing  
 to grow it for wholesale in the future?.....7. Yes \_\_\_\_\_ No \_\_\_\_\_

**continued please turn this page over thank you!**

**page 2. Essential Oil Questionnaire - Do You Want to Sell Your Lavender Wholesale?**

Below are herbs which can be grown in West Virginia. Sample Prices are for the essential oils derived from them.

Angelica Root	\$17.55 1 dram	Garlic		Peppermint
Anise Seed	\$1.82 5 ml.	Hyssop		Rose
Basil, Sweet	\$3.20 5 ml.	Laurel Leaf	\$3.03 5 ml.	RueSage, Clary
Cedarwood, Red		Lavender	\$2.42 5 ml.	Savory, Summer
Chamomile, German	\$8.78 1 dram	Lemongrass	\$2. 5 ml.	Spearmint
Chamomile, Roman		Marjoram, Sweet		Spruce
Cilantro	\$4.84 5 ml.	Melissa (Lemon Balm)		Tarragon
Dill		Mugwort		Thyme, Red
Erigeron (fleabane)		Oregano (vulgare)		Thyme, White
Eucalyptus		Patchouli		Wormwood
				Yarrow

**For Your Information**

approximately 7 lbs. of dried lavender flowers = 1 oz. essential oil.  
 approximate yield per acre: \$1800.  
 approximate profit per acre of lavender: \$800. approximate cost per acre: \$1000. # of plants/acre: 2000  
 average wholesale price per lb. of lavender flowers: \$5. (all quotes subject to change)  
 5 ml. = approximately 1/6 ounce. 1 U.S. fluid ounce = 29.57 millileters.



**Questionnaire continued**

**Please print clearly. If you would like a copy of this Questionnaire, please zerox it.**

Of the above named herbs, which ones are you growing now? \_\_\_\_\_

Are there any of the above named herbs which you would consider growing for wholesale for essential oil production? Please name them. \_\_\_\_\_

***Please put any comments you have here.***

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**If you get this questionnaire and know someone else who would be interested in filling it out, please copy and give it to them. Thank You.**

**Please print or type:**

Your name: \_\_\_\_\_ Name of Your Farm \_\_\_\_\_

Address: \_\_\_\_\_ (PO Box, Street # and Name) \_\_\_\_\_ (town, zip) \_\_\_\_\_

Phone Number: \_\_\_\_\_ email: \_\_\_\_\_ web site: \_\_\_\_\_



**Please mail to: La Paix Herb Farm, HC 64 Box 17, Alum Bridge, WV 26321  
 email: lapaix@iolinc.net. On the web at: www.lapaixherbaljourney.com  
 (304) 269-7681**

## APPENDIX D

# Value Added Products of Essential Oil

Soaps (especially Spicebush): Hydrosols & Essential Oils  
Mists - Room Deodorizers: Hydrosols  
Lady Bug Killers (formulas created by both Myra and Melissa Dennison) using Essential Oils, Hydrosols & Plant Tea  
Cleansers - Lavender Hydrosol  
Relief for Bee Stings - Peppermint Hydrosol  
Calming Spray - Lemon Balm, Lavender Hydrosols  
Calming Babies and Road Rage, Possible Use in Hospitals and Mental Hospitals - Lavender Hydrosol  
Wake Up Spray - Peppermint Hydrosol  
Insect Repellent - Peppermint, Lavender and Lemon Grass Hydrosol (used peppermint hydrosol in Provence - kept flies out of room (no screens in France)  
Room Enlarger - Lemon Hydrosol Spray  
Cosmetics - Lemon Verbena, Lavender Hydrosols  
Anti-Inflammatory - Witch Hazel Distillation  
Possible antioxidant, cancer cure - Autumn Olive  
Culinary Uses of all approved hydrosols  
see the *Great Lavender Chicken Experience* brochure in this Appendix

## Uses for Spent Material from Distillation

### Process

#### *Spent Herbs*

Mulch  
Paper Making  
Compost material  
Soap making  
Lavender Bale Housing (formerly Straw Bale)

#### *Teas (left in retort after boiling)*

lavender tea used for bathing, cleaning tubs and surfaces, spray  
peppermint tea used for flavoring drinks  
compost  
peppermint tea used for experiment in retarding pithium wilt on lavender - somewhat successful  
reused in second distillation of same material  
used in experiments with lady bug killing

#### *Warm water from condenser*

used to water garden  
pond?  
soaker hose attached?

It is really better to figure out a way to recirculate it, by cooling it fast as it leaves condenser  
(can experiment with beer cooler equipment)  
Put ice cold water in large cooler-put 15 feet of exit piping in cooler to recirculate - some success

# Pricing for Essential Oil Distillation

La Paix Herb Farm Summer, 2001  
 FNE01-358 Essential Oil Distillation for West Virginia Herb Growers:

A Small Good Project

<u>Fixed Costs</u>		<u>all Distillations</u>	
Distillation:			
Labor: (4 hrs/m/l)	\$24.00		
*Electricity:	\$ .50		
*Water:	\$ 1.50		
*Ice	\$ 3.00		
Rental distiller	\$10.00		
Electricity, Water and Ice are estimates.			
4 oz. Plastic Bottle w/ sprayer	\$ 1.00		
4 oz. Glass Bottle w/ sprayer	\$ 1.20		
Labels	\$ .25		
Labor Bottling & Labeling providers share and Distiller's 4 oz. bottles: (approx.) .50 each			
4 oz. bottle			
*# of 4 ounces x .50=			
<b>Total Average:</b>	<b>\$41.45</b>		
<b>plus bottling cost*</b> (dependent on # of ounces obtained).			
PLEASE NOTE THIS COST ANALYSIS DOES NOT INCLUDE MARKETING, SHIPPING COSTS.			
<u>Spicebush Berries</u>	Cost Fresh 4 lb. Berries: <b>\$7.00</b>	<u>Lavender</u>	Cost: Sharing with Melissa
Total Cost: <b>47.20</b>	& each bottle	Dennison (fresh from both her and Myra: 1/2 lb. \$?)	from both her and Myra: 1/2 lb. \$?
& label	Yield: Hydrosol: 1 gal. 17 oz.	Dry from Frontier: 1/4 lb.: <b>\$8.38</b>	Frontier: 1/4 lb.: <b>\$8.38</b>
Sue received 1/3 or 48 oz.	Sue received 1/3 or 48 oz.	Total Cost: <b>\$50.25</b>	Total Cost: <b>\$50.25</b>
Distiller received 2/3 or 98 oz.	Yield: E.O. 3 dropperfulls	Yield: Hydrosol: 118 oz.	Yield: Hydrosol: 118 oz.
Sue rec'd 1 dropperful.	Sue rec'd 1 dropperful.	Melissa rec'd 35 oz. Distiller rec'd 83 oz.	Melissa rec'd 35 oz. Distiller rec'd 83 oz.
Labor Bottling & Labeling per 4 oz.: (5" each): based on \$6./hr. <b>\$12. = 24 bottles</b>	Labor Bottling & Labeling per 4 oz.: (5" each): based on \$6./hr. <b>\$12. = 24 bottles</b>	E.O.: 1 dram	E.O.: 1 dram
<b>Bottles &amp; Labels: Labels: \$36.</b>	<b>Bottles &amp; Labels: 15 x 4 oz. glass bottles = \$22.50.</b>		
<b>Total Cost: \$116.45</b>	<b>Total Cost: \$129.20</b>		
<b>Total Cost @ 4 oz. bottle: \$4.85.</b>	<b>Total Cost @ 4 oz. bottle: \$8.61.</b>		
		<u>Peppermint</u>	Cost: Sharing with Deanna Smith and husband: (fresh): 4 lbs.
		Total Cost: <b>\$41.45</b>	Total Cost: <b>\$41.45</b>
		Yield: Hydrosol: 128 oz.	Yield: Hydrosol: 128 oz.
		D. rec'd 42 oz.	D. rec'd 42 oz.
		Distiller rec'd 86 oz.	Distiller rec'd 86 oz.
		E.O. 1 dram	E.O. 1 dram
		Labor: Bottling & Labeling per 4 oz.: 21 bottles x 5" @ \$6./hr = <b>\$11.</b>	Labor: Bottling & Labeling per 4 oz.: 21 bottles x 5" @ \$6./hr = <b>\$11.</b>
		<b>Bottles &amp; Labels: 21 x \$1. = \$27.</b>	<b>Bottles &amp; Labels: 21 x \$1. = \$27.</b>
		Total Cost: <b>\$79.45</b>	Total Cost: <b>\$79.45</b>
		<b>Total Cost @ 4 oz. bottle: \$3.78</b>	<b>Total Cost @ 4 oz. bottle: \$3.78</b>
		<u>Lemon Grass</u>	Cost: Sharing with Ann Romance
		3.75 lb.	3.75 lb.
		Yield: Hydrosol: 112 oz.	Yield: Hydrosol: 112 oz.
		Ann rec'd 37 oz.: Distiller rec'd 75 oz.	Ann rec'd 37 oz.: Distiller rec'd 75 oz.
		E.O. none	E.O. none
		Total Cost: <b>\$41.45</b>	Total Cost: <b>\$41.45</b>
		Labor: Bottling & Labeling per 4 oz. 18 bottles x 5" @ \$6./hr = <b>\$9.</b>	Labor: Bottling & Labeling per 4 oz. 18 bottles x 5" @ \$6./hr = <b>\$9.</b>
		<b>Bootles &amp; Labels: 18 x \$1. = \$18.</b>	<b>Bootles &amp; Labels: 18 x \$1. = \$18.</b>
		Total Cost: <b>\$27.50</b>	Total Cost: <b>\$27.50</b>
		<b>Total Cost @ 4 oz. bottle: \$7.25</b>	<b>Total Cost @ 4 oz. bottle: \$7.25</b>
		<u>Cost per bottle some other distillations:</u>	<u>Cost per bottle some other distillations:</u>
		<b>Lemon Verbena:</b> \$3.30 (shared with Ann Romance) 3.25 lb. yield 152 oz.	<b>Lemon Verbena:</b> \$3.30 (shared with Ann Romance) 3.25 lb. yield 152 oz.
		<b>Lemon Balm:</b> 1-1/2 dried, 1/2 fresh yielded 128 oz. Distillers \$3.50	<b>Lemon Balm:</b> 1-1/2 dried, 1/2 fresh yielded 128 oz. Distillers \$3.50
		<b>Spicebush Leaves:</b> (shared with Sue Cosgove) \$4.00	<b>Spicebush Leaves:</b> (shared with Sue Cosgove) \$4.00
		<b>Catnip:</b> 4 lb. yielded 80 oz. Distillers. not bottled (does not smell like catnip)	<b>Catnip:</b> 4 lb. yielded 80 oz. Distillers. not bottled (does not smell like catnip)
		<b>Apple Mint:</b> 2-1/2 lb Distillers yielded 60 oz. not bottled	<b>Apple Mint:</b> 2-1/2 lb Distillers yielded 60 oz. not bottled
		<b>Goldenrod:</b> 1-1/4 lb. yielded 64 oz. Distillers not bottled	<b>Goldenrod:</b> 1-1/4 lb. yielded 64 oz. Distillers not bottled
		<b>Witchhazel:</b> 1 lb Distillers yielded 74 oz. not bottled	<b>Witchhazel:</b> 1 lb Distillers yielded 74 oz. not bottled
		<b>Purple Perilla:</b> 4 lb. Distillers yielded 128 oz. not bottled	<b>Purple Perilla:</b> 4 lb. Distillers yielded 128 oz. not bottled



# Spray Bottles of Floral Waters

**What is a Hydrosol?**  
 The word *hydrosol* is a chemistry term meaning "water solution". In the world of aromatherapy, hydrosols are also known as *hydrolates*, *hydrolats*, *floral waters* and *plant waters*.

8 oz.	\$16.
6 oz.	\$12.
4 oz.	\$ 8.

Hydrosols contain all of the plant in every drop, just like a hologram. - the water-soluble components, the essential-oil molecules, the very fluid that was flowing through the plant cells when the plant was collected.

## Hydrosols - True Floral Waters from the La Paix Herb Farm Distillery

2 oz. \$5.00..... 4 oz. \$8.00..... 6 oz. \$12..... 8 oz. \$16.....

100% pure non-alcoholic hydrosols - or true floral waters - are the "other" products obtained from the steam distillation of plants - indeed they are by-products of essential oil production - however they are gentle yet powerful (and delightful) therapeutic agents in their own right! Richly saturated with the water-soluble, anti-inflammatory, calming plant components, without the irritants! Great for kids! They are not the same as facial sprays/floral waters on the market (those are mostly water/essential oil blends, usually with preservatives, alcohol) - true hydrosols are antiseptic, astringent, cooling - the ultimate facial skin toners, after shaves, hair lotions, perfect for compresses, facial steaming, inhalation, add liberally to bath water. Keep refrigerated - since they contain no preservatives, they'll deteriorate in time, usually about a year. From Susan Catty, Hydrosols, the Next Aromatherapy.

**Essential Oil Distillery Project Meeting  
May 10, 2001  
West Virginia University Extension Office Weston**

**Attendance:**

**Myra Bonhage-Hale  
Kate Walsh  
Bruce Lloyd  
Matt Taylor**

**Hydrosols:**

**Sample of Autumn Olive: "intersesting and unique," meditative scent, religious,  
"Christian fragrance"**

**Could Autumn Olive be used for flytrap attractant?**

**Myra to email Robert Seidel to find out what it is good for**

**Could we try honey suckle?**

**Lavender:**

**Nine quarts of hydrosol yielded with retort full of lavender blossoms.**

**Myra to convert 9 quarts to milliliters**

**Frontier wholesale price of lavender: \$16.75/lb. (takes at least three pounds to fill  
retort)**

**Myra getting lavender plugs at Baltimore Herb Festival for \$0.50/plug**

**WVHA problem:**

**Myra has \$1000 from grant unused. How can she spend it since WVHA declined  
the money?**

**Herb network in Lewis County only**

**to entice growers: "Start-up help" for those interested {from October meeting}**

**Money could be used for an end-of-year meeting if no one show interest in  
network after October meeting (or as a follow-up)**

**Money could be put used in conjunction with Matt's project: "woodland  
medicinals" (melissa, calendula, goldenseal)**

**Could money be used to help fund Myra's trip to France?**

**Problems:**

**Can money be carried over into the next year if not used by the end of this year?**

**Are people willing to be part of a network with a 2-3 year waiting period of  
lavender?**

**Can a production facility be funded without a product?**

**We need retail/wholesale prices of hydrosols and essential oils (is the project  
worth it?)**

What do we do with people who filled out questionnaire? Matt wants names; could tell interested people to hold off until October meeting and have them come to that.

**Market Feasibility and marketing Grant.**

Matt and Bruce have copies-will try to help fill out.

Matt will work on commodity issue.

To meet one of the goals of the grant: we must initiate a project this year or have a commitment for a future project – stimulate research

Purpose of grant will be to see how to market final product of hydrosol/essential oil. Myra could talk to Maureen Rogers or Tim Blakely but they would have to be paid

\*This will take at least a year of research to get any results

Myra can ask Maureen for a list of buyers/growers

**Advertising of Essential Oil meeting in October:**

Booth at Sustainable Fair 2001

Booth at Vandalia Festival

Bring information to any type of meetings that would show interest

WV Arts and Crafts Fair – July 4, Cedar Lakes; Department of Agriculture has a booth there.

Advertise in regional newsletters of WVHA in September edition

Tell local newspapers three weeks before event so public knows about ten days in advance.

Advertise on radio day of event

Put fliers in health food stores, GNC

Contact Ann Romance, Linda Christen, & Charlotte Chandler (all have extensive mailing lists)

Bruce will put Myra's brochure into his September edition of newsletter

Bring fliers, info to Plant Savers

Contact Scott and Cindy sometime in August (???)

Contact tobacco farmers who may be thinking of alternatives (probably would want peppermint over lavender)

**Next meeting:**

Saturday, June 16, 2001

La Paix Farm Essential Oil Workshop \*\*demo of distillery\*\*

Come early for lunch (11:00 am)

**Future meeting:**

Thursday, August 2, 2001

West Virginia University Extension Office

1:00 – 3:00 pm

# Essential Oil Distillation Project

## Farmer/Growers of Lavender/Lemon Balm

Farmer/Growers of lavender and lemon balm. SARE Project 2001 La Paix Herb Farm

Name	Name of Farm	Address	Phone #
<b>* 1. Melissa Dennison</b> gardentreasures@hotmail.com	Garden Treasures	<u>Braxton County</u> HC69, Box 3 Clem, WV 26623	(304) 364-5589
1- El Grosso	1 - El Grosso 1 - Dutch 1 - lemon balm		
<b>*2. Sue Cosgrove</b> wwwheat@yahoo.com	Lee Jun Farm	<u>Calhoun County</u> HC88 Box 145 Chloe, W.V. 25235	(304)655-9950
<b>3. Patrick Keely</b>	1- El Grosso 1 - Dutch 1 - lemon balm.	<u>Lewis County</u> Rt. 2 Box 99 Camden, W.V. 26338	304) 269-4940
<b>4. Terry E. Morse &amp; wife</b> knifecorner@hotmail.com	1- Dutch 1 - Fred Boutin 1- Lemon Balm	421 Alpine Rd. Warfordaburg PA 17267	(717) 593-4415
<b>5. Dawn Holden</b> /Richard Coleman serenity@ruralnet.org	1 - El Grosso 1 - Provence White 1- Lemon Balm	<u>Ritchie County</u> HC 80 Box 7A Burnt House, WV 26178 "Straight Up" Farm	(304) 349-2290
<b>6. Johanna Harter</b> JHarter@ovis.net	1 - El Grosso 1 - 1 - Lemon Balm	HC 62 Box QQ Pine Grove, W.V. 26419	(304) 889-3317
All above picked up at La Paix on 08-02-2001			
<b>*7. Jo Ann Huffman</b> peggyjo253@hotmail.com	1 - Provence 1 - White Provence to be picked up later: D.M. lemon balm	Reed Mountain Farm 136 Hoist Rd. Beckley, W.V. 25801	(304) 253-3537
<b>*8. Sandy Mills</b> rodyoungblood@cs.com	1 - Provence 1 - Fred Boutin to be picked up later: D.M. lemon balm	Whisper Valley Farm P.O. Box 796 Skelton, W.V. 25919	(304) 252-1820
<b>*9. Elaine Ferry</b> arcadiaherb@yahoo.com	1 - Dutch 1 - Provence 1 - Provence White to be picked up later: D.M. lemon balm	Arcadia Retreat and Herb Farm HC 66 Box H Big Springs, WV 26137	(304) 477-3299
<b>*10. Scott &amp; Barbara Weaner</b> sweaner@neumedia.net	2 - Provence	Rt 2 Box 96 Montrose, WV 26283	(304) 478-2123
7, 8 and 9 picked up at La Paix on 08-04-2001.			