



KFES NEWSNOTES

FLORICULTURE EDUCATION SERVICES, INC.

95-1

Housekeeping for the new year.

Before I go any further.

In last month's *Back Page Notes* I explained that the annual renewal fee for 'Newsnotes' would be reduced from \$100 to \$75. What I forgot to mention was that the timing of your renewal will be 12 months after your initial payment. There is no need for you to send a renewal until you hear from us. Tama will contact you as your subscription anniversary approaches. Sorry for any confusion.

1995 Research Projects.

Many stimulating questions and concerns over the use Of Florel came out of last year's schedule of workshops. I want to thank all of our attendees for their effort. From these questions I have developed a list of experiments to include in this year's research activities.

Beginning with the August workshops I asked attendees to suggest some possible research topics and vote for the one that they would like to see their research funding support. Here are the results:

Kintnersville, PA.....Pot Mums
 Davidsonville, MD.....Poinsettia Stock
 Andover, MA.....6" Jumbo Annuals
 Auburn, NY.....Poinsettia Stock
 Denver, CO.....Branching of Perennials
 Seattle, WA..... Fuchsia Cultivar Response
 Pittsburgh, PA.....Vegetable Bedding Plants

I think this procedure will prove to be an excellent way to identify regional topics that need to be researched. Your input in deciding what projects your money will support will lend some much needed leverage to the entire Florel project. This grower generated funding allows me to approach other sources (suppliers, breeders, distributors, specialty groups, etc.) and ask them to

consider providing matching funds. As these experiments are completed I will report results and recommendations to you in future issues of Newsnotes.

I am starting two new research projects this winter, neither of which directly related to Florel, but both having possible implications in the greenhouse. I am going to be working with O.M. Scotts (who recently acquired Grace-Sierra) on growing media/nutrition studies. The other project is with a chemical company that has developed a product that stimulates photosynthesis. We are going to work with this product on a number of floricultural crops. Both areas are quite exciting, but confidential so I am not able to go into detail.

Preliminary Pot Mum Results A preliminary experiment with pot mums, using Florel during short days to substitute for lighting in order to maintain vegetative growth has just been completed. Plants were treated from mid September into early October. I am writing this on January 10 and some of the treatments still have not set bud. Figuring September 20 as the start of natural short days, this means that some plants have remained vegetative for 16 weeks under inductive photoperiods...without lights! Much more work lies ahead but so far, so good.

Common Questions Lead To Experiments. A few commonly asked questions have lead to designed experiments. One such question is "How long does it take for a Florel application to be absorbed by the plant. What if someone comes in and waters a crop thirty minutes after I have sprayed it. Will the Florel be washed off?" I am planning to use impatiens in this experiment. After a standard foliar application of Florel, treatments

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will include washing the plants off after 10, 20, 30, 40,...minutes and then documenting their growth and flowering.

Another question that has come up, this time in garden mum discussions is "will different concentrations of Florel delay flowering differently. Can different concentrations be used on one application date to stagger flowering." The area of concentration is going to receive considerable attention as I shift into phase two of the label expansion project. Until now we have kept most of our applications at 500ppm. But as we better understand how crops respond the next step will be fine tuning our approach by tailoring concentrations. Do not be concerned about this. I want you to stick to the standard 500ppm for the next year or two, until I have a chance to generate some data.

Water Quality And Florel Stability. Don Dirksen, a Rhone-Poulenc sales rep in the Pacific Northwest who attended the Seattle workshop, forwarded to me some information about water quality and the stability of Florel spray solutions. In the accompanying table which I simplified slightly the stability of a Florel solution is presented for different pH levels and temperatures.

In previous issues of Newsnotes I have stated that the pH of the solution in your spray tank must be acidic. Otherwise, the ethylene will be released prematurely. You can see from the data presented in this table that stable solutions are achieved under normal temperatures (at or below 91 degrees F) at pH values of 5.0 and below. Once the pH level exceeds 5.0 the stability of the solution is reduced (as shown by the half-life or number of hours it takes for half of the ethylene to be released from solution). For instance, at a pH of 6.0 and temperature of 77 degrees half of the ethylene would be released from solution in 56 hours.

This does not mean that you have 56 hours in which to use the solution! It means that gradually over the first 56 hours 50% of the effectiveness of this spray solution will be lost.

Look again at the acidic pH levels of 4.0 and 5.0 and what happens to an otherwise stable solution when the temperature increases to 108 degrees. What was a stable solution at normal temperatures suddenly has its "days numbered".

Consider a hot summer day and spraying garden mums with a plastic, translucent sprayer. If you put the sprayer down in the sun while you go for a drink of water how high will the temperature of the spray solution climb? 108 degrees is not unreasonable. If it's my crop I certainly do not want to take any chances. My rule...Get that drink of water **before** you mix the spray solution.

pH	Temperature (°F)	Half-Life (Hr)
4.0	77	Stable
4.0	91	Stable
4.0	108	72
5.0	77	Stable
5.0	91	Stable
5.0	108	72
6.0	77	56
6.0	91	72
6.0	108	72
7.0	77	56
7.0	91	24
7.0	108	6
8.0	77	30
8.0	91	9
8.0	108	2

The information in this table was used to develop the following rules for mixing and using Florel.

1. The pH of the spray solution should not exceed 5.0. If it does check your water quality (pH and alkalinity). If your water quality prevents the necessary pH drop, consider using distilled water.
2. Learn to "mix what you need and use what you mix". The rule of one gallon of spray solution for every 200sq.ft. of crop area works.
3. Use the solution within several hours of mixing. Do not risk any instability by letting it set overnight.
4. Do not leave the sprayer in direct sunlight for any length of time where rising temperature could cause instability.



The Influence of Foliar Exposure Time on the Effectiveness of Florel Treatments.

Summary

Foliar exposure times of less than 20 minutes resulted in no significant dropping of impatiens flowers after 24 hours. Twenty minutes resulted in 43% of open flowers dropping and 30 minutes or more resulted in as many flowers dropping as on plants with full exposure times. Reapplication 24 hours after wash-off treatments resulted in complete flower drop.

Introduction

This experiment was designed to answer some frequently asked questions regarding Florel applications. What happens if someone waters a crop that has recently been treated with Florel, unknowingly washing the application off. Or, what happens if a Florel application is made to garden mums growing outdoors and rain comes within hours after the application is made. Should a second application be made? How long must the material be on the leaf in order to penetrate and cause the desired effects?

Procedures

Dazzler White impatiens plants were grown in 4-1/2" pots, one plant/pot, following standard greenhouse practices. When plants were mature and in bloom the experiment was initiated. The experiment was started on the afternoon of April 24, 1995. A Florel application of 500ppm was made immediately after recording initial open flower number for each plant. Each treatment contained six plants. After predetermined times plants were washed off using tap water and a Damm 400 breaker nozzle, simulating a thorough overhead watering or a short rainfall. Treatments included wash-off at 0, 5, 10, 20, 30, 60, and 120 minutes after Florel application along with an untreated control and a no wash-off Florel treatment.

Twenty four hours later plants were shaken gently to clear away abscised petals and remaining open flowers were counted. Three of the six plants from each treatment were then treated a second time with Florel, again at 500ppm, to simulate a re-

application following the wash-off. Open flowers were counted at two, four, and six weeks following this second treatment.

Results and Discussion

24 hour petal drop

Percent flower drop during the 24 hours following the Florel application and subsequent wash-off treatment is presented in Table 1. Averages followed by the same letter are not significantly different and should be viewed as being similar from a statistical point of view. Results clearly show that exposure times of less than 20 minutes did not cause flower drop as compared to untreated control plants.

Table 1 Treatment	Flower Drop After 24 hr (percent)
Control	-9ef
0 min. + wash	8def
5 min. "	3def
10 min. "	-16f
20 min. "	43bc
30 min. "	86a
60 min. "	79a
120 min. "	92a
No Wash	93a

Both control and 10 minute treatments experienced negative flower drop indicating that more new flowers opened during the 24 hours than fell off. A twenty minute exposure time resulted in almost half of the flowers falling (43%), an intermediate effect. Thirty, 60, and 120 minute exposure times were equal to the no wash treatment, resulting in nearly complete abscission of flowers.

There are two very practical conclusions to be drawn from these data. First it appears that, at least with this type of impatiens, a **minimum exposure time of 30 minutes is necessary to achieve initial flower drop**. If someone inadvertently waters a crop within the first half hour after treatment it appears that most of the effect will be lost. Second, in the case of an application made to plants that should not have been treated it appears that you have less than 10 minutes to wash it off without causing any effect. This helps direct us in hanging basket treatments. I have stated over and over that spray drift is a concern with Florel applications. I have not recommended treating baskets that are hanging over other crops. Now you can see why. **In as little as 20 minutes there is going to be an effect**. Conversely, if you do treat some hanging baskets and experience spray drift the information in this experiment indicates that you have **less than 10 minutes to wash it off**.

Subsequent flowering, 2 weeks

Table 2 presents reflowering data at 2, 4, and 6 weeks after treatment. The numbers represent open flowers only, not including buds. After 2 weeks there was little difference between any of the wash-off treatments as compared to the untreated control while the Florel treatment that was not washed off had significantly fewer flowers as expected.

It was noted after the initial 24 hour period when flower drop was determined that visible buds did not seem to be affected. I feel that an explanation for the rapid reflowering is due to the fact that exposure times up to 120 minutes were not long enough for the ethephon to penetrate the bud but were long enough to penetrate the petal tissue. I believe that an open petal exposed a much greater surface area for the application than did the closed bud. On the other hand, the no wash treatment did result in bud abortion as seen in the lack of flowering after 2 weeks.

Table 2 Treatment	Flower Number (2 wks)	Flower Number (4 wks)	Flower Number (6 wks)
Control	24a	102a	68a
0 min. + wash	20ab	63bc	61ab
5 min. "	19ab	56bc	57ab
10 min. "	15b	50c	66a
20 min. "	17b	69b	57ab
30 min. "	18ab	61bc	51abc
60 min. "	17b	61bc	63ab
120 min. "	15b	65bc	50abc
No Wash	4c	29d	47abc

Subsequent flowering, 4 weeks

After 4 weeks the control plants had the most flowers, all of the wash-off treatments had an intermediate number of flowers, and the no wash treatment had the fewest flowers. I believe that an explanation for this may be that while the limited exposure times did not appear to be long enough to abort visible buds they may have been long enough to delay initiation of new flower buds resulting in the reduced flower number after 4 weeks. By the 6 week flower count all treatments were similar, including the no wash treatment, reaffirming the rule that plants treated with Florel will flower 6 to 8 weeks following the last application.

Reapplication following wash-off

Flowering data for plants that were retreated after the wash-off are presented in Table 3. The reapplication clearly affected flowering after 2 and 4 weeks as shown by the shaded columns. Once again, by 6 weeks the treatment had worn off and plants flowered normally.

Vegetative Growth Response

Analysis of data for plant branching, height, and width has not yet been completed. I want you to digest the flowering information first and in a later issue I will discuss the vegetative response. Let me say at this point that there were differences due to wash-off. In the final analysis we will probably have to consider both responses when deciding how to handle overhead watering, rain, and spray drift exposure.

Fall Repeat

This experiment will be run again this fall to look at longer exposure times now that we understand what happens during the first two hours. Treatments will include exposure times of two, four, six, eight, etc. hours to determine what is happening during the first day following an application.

Next summer we will run a comparable experiment using outdoor garden mums to answer questions regarding exposure times, rains, and so on for this crop.

Table 3 Treatment	Flower Number (2 wks)	Flower Number (4 wks)	Flower Number (6 wks)
Control	24a	102a	68a
0 min.+ wash + reapplication	6c	16de	51abc
5 min. "	2c	4e	45abc
10 min. "	3c	9e	49abc
20 min. "	2c	10e	49abc
30 min. "	4c	6e	34bc
60 min. "	1c	6e	40abc
120 min. "	2c	3e	51abc
No wash + reapp.	1c	1d	47abc
No wash	4c	29e	47abc

BACK PAGE NOTES

Our system is working

This issue is the first of what I expect to be many reports of research projects that are a direct result of your support. The experiment reported in this issue, referred to as the "Wash-off experiment", was funded jointly by **The Northeast Region Sustainable Agriculture Research and Education Program & Agriculture in Concert with the Environment Program** and your support during 1994-95. To be eligible for this program I had to generate matching funds to equal those requested in the proposal. Your support allowed me to do that. As a result the two sources of funding were sufficient to get the job done. Many thanks for making this happen. The questions that were answered by the research are very practical, everyday issues regarding foliar applications...of any material.

Preliminary Poinsettia Results

Early treatments on stock plants appear to be doing what I expected them to do. Cuttings from treated stock are currently in propagation and will be grown on. Treatments to finished crops will be initiated this month. During the winter I will devote an issue to my thoughts on this crop and how Florel may benefit it.

Fall Workshop Schedule

Included with this issue is a workshop schedule. As an active subscriber you are entitled to a \$25 discount on your first registration. The six hour workshop is continually be updated with research results. I hope to see some of you in my travels. Plans are in the works for an additional workshop in Michigan on October 31. More on this later, as plans materialize.

Such as...Such as...Such as...

Perhaps the best news I heard all summer was that the new Florel label will have the all important "such as" phrase added to it. It will be labelled for crops "such as geranium, garden mum,..." and make life a whole lot easier for us all. We are finally seeing a broad spectrum label!!!



KFES NEWSNOTES

FLORICULTURE EDUCATION SERVICES, INC.

95-8

Fuchsia Cultivars; Response to Florel

Summary

Thirteen cultivars of fuchsia were either pinched once, sprayed once with Florel, or not treated at all. Averaging all cultivars, pinching delayed flowering by about one week and treating with Florel delayed flowering by about two weeks compared to untreated, control plants. Plant height was shortest in pinched plants while similar for Florel treated and control plants. Similarly, the number of primary branches was lowest on pinched plants and similar for Florel treated and control plants. The number of secondary branches was lowest for control plants and similar for both pinched and Florel treated plants. Total number of branches was greatest in Florel treated plants followed by pinched and control plants.

Experimental Procedure

Unrooted cuttings of thirteen fuchsia cultivars were received courtesy of Harry Smith Greenhouses, Bellingham, Washington on February 5, 1995. There were six trailing cultivars, six upright, and one intermediate. The cultivars are grouped by growth habit in table 1.

Table 1.

Cultivar	Growth Habit
Cascade	Trailing
Dark Eyes	Trailing
Jack Shahan	Trailing
Marinka	Trailing
Moonglow	Trailing
Swingtime	Trailing
Lena	Trailing(semi)
DollarPrincess	Upright/large leaf
Miss California	Upright/large leaf
Santa Claus	Upright, large leaf
Coquet Bells	Upright/small leaf
Little Jewel	Upright/small leaf
Peppermint Stick	Upright/small leaf

This same order of cultivars, with the upright group shaded, is used in all successive tables. Cuttings were rooted in 72 plug trays and transplanted into 5 inch azalea pots on February 27 (one cutting/pot). Plants were treated on March 10 by either pinching or applying a 500ppm foliar spray of Florel. There were five plants per treatment and a total of 195 plants in the experiment. While plants within each cultivar were uniformly pinched to the same number of nodes, cultivars differed and ranged from three nodes to six depending on plant size and vigor.

Date of first open flower was recorded for each plant. After all plants in a cultivar had flowered plant height, number of primary branches, number of secondary branches, and the total number of branches were determined. Measurements were completed during the same day for each cultivar while the thirteen cultivars were spread over the period of May 20 to June 9.

Flowering

Table 2 presents Days to Flower from transplant. For each cultivar averages followed by different letters are statistically different while averages followed by the same letter are not. For example, the cultivar Cascade is interpreted as follows. Control and pinched plants flowered at the same time, 74-76 days, while Florel treatment delayed flowering until 85 days. In all thirteen cultivars Florel treatment delayed flowering over control plants while pinching delayed flowering in

Table 2.

May 15 = day 77	Days to Flower		
Cultivar	Control	Pinch	Florel
Cascade	74b	76b	85a
Dark Eyes	69c	77b	92a
Jack Shahan	77b	85a	89a
Marinka	75b	77b	86a
Moonglow	78b	83b	89a
Swingtime	75b	77b	89a
Lena	72b	79a	83a
Dollar Princess	80c	86b	97a
Miss California	74b	80a	84a
Santa Claus	71c	77b	86a
Coquet Bell	67b	80a	86a
Little Jewel	78c	80b	92a
Peppermint Stick	76c	80b	84a
Average(Days)	75	80	88
Average(Date)	May 13	May 18	May 26

nine of the thirteen cultivars. I thought it interesting that the four cultivars not delayed by pinching, Cascade, Marinka, Moonglow, and Swingtime are all trailing cultivars generally agreed to be strong growers. Comparing pinching and Florel treatment, Florel treated plants flowered later than pinched plants in nine cultivars while in four there was no difference. The bottom row of the table translates days to flower to flower date. Control plants flowered on May 13, pinched plants on May 18, and Florel treated plants on May 26.

Plant Height

Plant height was measured from the pot rim to the tip of the longest branch (Table 3). Pinched plants tended to be shortest as one might expect because the growing point of the plant was removed. This was more apparent in trailing cultivars. Five of the seven, considering Lena as a trailer, followed the trend where pinched plants were shorter than both control and Florel treatments. The two cultivars that did not follow this trend, Dark Eyes and Swingtime, showed no differences at all. This trend is likely due to the fact

Table 3.

	Plant Height (in)		
Cultivar	Control	Pinch	Florel
Cascade	16.8a	14.5b	17.6a
Dark Eyes	17.8a	15.1a	15.3a
Jack Shahan	23.6a	16.2b	24.9a
Marinka	28.5a	20.8c	25.1b
Moonglow	26.4a	18.1b	22.3a
Swingtime	25.3a	21.2a	22.8a
Lena	21.7a	19.2b	23.0a
Dollar Princess	14.2a	12.3b	11.5b
Miss California	17.6a	15.8a	17.6a
Santa Claus	17.8a	14.7a	17.0a
Coquet Bell	10.3a	10.1a	9.8a
Little Jewel	12.3a	11.9a	11.3a
Peppermint Stick	14.5a	11.7b	14.3a
Average	19.0	15.5	17.9

that trailing cultivars are more vigorous and grow longer than upright cultivars.

Branching

Branching was divided into three categories, primary, secondary, and the total of the two. Primary branches originated from the main stem and secondary branches originated from primary branches. Table 4 shows primary branching data. The treatment averages for all cultivars (bottom row) show control and Florel treated plants had similar branching with 25 branches per plant while pinched plants had only 10 branches per plant. Pinching the growing tip of the plant has a dramatic effect on this category of branching, limiting the potential primary branches to the number of nodes left on the main stem.

In eleven of the thirteen cultivars pinching resulted in significantly fewer branches than either control or Florel treatment. Swingtime and Little Jewel were the exceptions. Comparing control and Florel treatments, in five cultivars Florel treatment yielded more branching, in six cultivars there was no difference, and in two cultivars, Dark Eyes and

Table 4.

Cultivar	Primary Branches		
	Control	Pinch	Florel
Cascade	23b	9c	27a
Dark Eyes	22a	9c	15b
Jack Shahan	24b	8c	29a
Marinka	27b	10c	33a
Moonglow	22a	10b	23a
Swingtime	26a	9b	17ab
Lena	25a	10b	27a
Dollar Princess	22a	9b	21a
Miss California	23a	8b	25a
Santa Claus	28b	14c	33a
Coquet Bell	20a	10b	21a
Little Jewel	32a	10b	15b
Peppermint Stick	28b	12c	32a
Average	25	10	25

Little Jewel, control plants had more branches.

Secondary branching (Table 5) was greater in pinched and Florel treated plants as compared to control plants (bottom row). In five of six upright cultivars there were no treatment differences indicating that these cultivars branch freely regardless of how they are treated. Peppermint Stick was the exception as both pinching and Florel treatment stimulated branching over controls. The intermediate cultivar Lena showed no treatment differences. All six trailing cultivars showed differences due to various treatments. The three cultivars Cascade, Dark Eyes, and Moonglow showed increased branching due to Florel treatment compared to control plants while the remaining three cultivars Jack Shahan, Marinka, and Swingtime showed no difference. Comparing pinching to Florel treatment, in five of the six trailing cultivars Florel resulted in the same or more branching than pinching. The only exception was Jack Shahan where pinching produced more branches than Florel.

Table 5.

Cultivar	Secondary Branches		
	Control	Pinch	Florel
Cascade	12b	48a	34a
Dark Eyes	29b	47b	76a
Jack Shahan	43ab	50a	21b
Marinka	56b	82a	69ab
Moonglow	29b	40b	61a
Swingtime	33b	71a	84ab
Lena	23a	45a	39a
Dollar Princess	49a	64a	52a
Miss California	45a	57a	60a
Santa Claus	60a	78a	82a
Coquet Bell	34a	58a	43a
Little Jewel	104a	117a	112a
Peppermint Stick	49b	87a	76a
Average	43	65	63

Total branches (Table 6) showed the same average trend from control to pinch to Florel as seen in secondary branching. Again, upright cultivars showed few treatment differences while trailing cultivars showed more. Florel treatment resulted in more total branches than control plants in five of the six trailing cultivars. Jack Shahan was the exception and showed no difference. Florel treatment equalled pinching in four of six cultivars and exceeded pinching in the remaining two. The intermediate cultivar Lena showed no difference, responding like an upright cultivar.

Summary

Regarding Days to Flower, Florel was more effective (all 13 cultivars) in delaying flowering over control plants while pinching was effective in 9 of 13 cultivars. If one reason to pinch a plant is to eliminate premature flowering, replacing the pinch with Florel treatment is more effective and less costly. However, if applied too late Florel will delay flowering. The March 10 application date delayed natural flowering by two weeks (May 26 compared

Table 6.

Cultivar	Total Branches		
	Control	Pinch	Florel
Cascade	34b	57a	61a
Dark Eyes	51b	56b	91a
Jack Shahan	67a	57a	50a
Marinka	83b	92ab	102a
Moonglow	51b	50b	84a
Swingtime	58b	81ab	101a
Lena	48a	55a	66a
Dollar Princess	71a	73a	73a
Miss California	68a	64a	84a
Santa Claus	88a	92a	115a
Coquet Bell	54a	69a	64a
Little Jewel	135a	127a	127a
Peppermint Stick	77b	99a	108a
Average	68	74	86

to May 13). Earlier transplant and treatment dates would eliminate this concern. The February 27 transplant date used in this experiment is several weeks later than my commercial transplant date. I normally have rooted cuttings ready to transplant in early February compared to receiving unrooted cuttings on February 5 for this experiment. Florel treatment did not affect plant height when compared to control plants indicating that the plants outgrew the single treatment and caught up to their untreated counterparts. Pinching had some effect, particularly on trailing cultivars. Fuchsia baskets are normally pinched more than once in order to produce full baskets. If multiple pinches or Florel treatments were used I suspect that there would have been a greater effect on plant height. Multiple pinches or Florel applications would put more pressure on the main shoot and primary branches which would inhibit plant height. The single treatments used in this experiment were outgrown, allowing plants to resume their natural growth.

The branching results are interesting and worth discussing further. On the surface, if only total branches are considered, the trend of increased

branching from control to pinch to Florel is not surprising. Pinching stimulates branching, that is why we do it. We have also learned that Florel stimulates branching better than pinching. These points are seen in the total branching data.

But this is not the complete picture. All branching is not the same as we see in the differences between primary and secondary branching data. It makes sense that if we pinch a plant the number of primary branches that can develop will be reduced. Pinching a plant with an alternate leaf arrangement to six nodes can result in no more than six primary branches. Pinching a plant with leaf pairs in an opposite arrangement to three nodes also results in no more than six primary branches. An unpinched plant has more potential to produce primary branches because more nodes are allowed to remain on the main stem. We saw this principle as both control and Florel treatments averaged 25 primary branches while pinched plants averaged 10. Calling Florel a chemical pinching agent is not completely accurate because it does not remove the shoot tip. Technically Florel stimulates lateral branching without damaging the shoot tip.

Conclusion

The objective of this experiment was to investigate cultivars and determine if there are differences in their response to Florel; specifically, are there any negative effects. There were no phytotoxic effects due to Florel treatment. The timing of the application was important as flowering was later in Florel treated plants, due to the fact that the experiment was run later than my normal, commercial crop. The grouping of cultivars as upright or trailing did show a branching trend which I believe is important. Trailing cultivars responded positively to Florel and pinching while upright cultivars branched regardless of treatment.

Lastly, I offer two observations. First, this experiment was designed around single treatments. Multiple applications or pinches will have more effect so keep this in mind as you trial Florel on this crop. Second, conducting hanging basket research using one plant per container, with no competition from other plants for light, water, and nutrients does not sit well with me. I believe most plants branch on their own if not competing with neighbors. Testing this hypothesis is in my research plans. If you have any thoughts on this idea please call me.

BACK PAGE NOTES

Please excuse my tardiness

This issue is several weeks late, but it is **not my fault!** In November I had my first experience with computer hardware problems. It seems my computer's mother board got tired. Just my luck. It couldn't have been the daughter, son, or baby board...it had to be the MOTHER board! Well, now I have a brand new Mother board to take me into 1996.

News of Expanded Florel Label Spreading

Are you noticing little blurbs in the trade magazines about the expanded Florel label? Well, pat yourself on the back, your support is the reason for the accomplishment.

KFES Newsnotes index

Tama put together an index for your newsnote issues for 1993, 94, and 95. Place it in your KFES notebook for future reference. I have asked her to put one together for the trade articles in the back of your book. She will send that along shortly. In the future I will develop a cross referenced index by topic. The notebook is getting full, if you need to make some room remove some of the trade articles from the back of the book forward, saving them in a file instead.

1996 Workshops

The 96 tour is developing. Settling into a schedule of about ten workshops a year is working well. I tried to do a few more in 1995 but ran out of gas towards the end (actually, my family threatened to exile me). The highlight of this year's tour, so far, will be a midwest swing in February. Stops in Toledo, Indianapolis, and Columbus should cover Ohio, Indiana, and Michigan.

<u>DATE</u>	<u>DAY</u>	<u>LOCATION</u>	<u>HOSTS</u>
January 9	Tuesday	Lexington, Kentucky	Kentucky Landscape Industries
February 20	Tuesday	Toledo, Ohio	Lakewood Greenhouses, Inc.
February 22	Thursday	Westfield, Indiana	Heartland Growers, Inc.
February 24	Saturday	Columbus, Ohio	Walter J. Engel, Inc.
March 3	Sunday	Andover, Massachusetts	Konjoian's Greenhouses, Inc.
July 13	Saturday	Cincinnati, Ohio	Ohio Short Course, not confirmed yet
September 14	Saturday	Andover, Massachusetts	Konjoian's Greenhouses, Inc.
Nov 4-11		Saskatchewan, Canada	to be announced
Nov 4-11		Alberta, Canada	to be announced

There is room for one or two more in the schedule. Whenever I am asked to speak on a program I try to schedule a workshop in order to make the trip as efficient as possible.

Poinsettia Project, Preliminary Results

Preliminary treatments on stock plants and finished plants were positive. Better branching on stock plants was seen using Florel in conjunction with a pinch than with a pinch alone. On finished plants similar results were seen. I do not think we will eliminate the pinch but what I have seen so far indicates that Florel treatment will indeed help the plant reach its fullest potential in its branching response. I would like to acknowledge Paul Ecker Poinsettias for coming on board with support for this project. This support will be combined with a portion of the research contribution you made in response to my June research request to expand the poinsettia work in 1996.

Other matters for 1996

The time has come for a book on Florel. I have enough information for two; a general publication on all crops and one on just garden mums. Also, I want to survey our group regarding successes, failures, economic benefits, and ideas for Florel. I welcome your comments, as usual.