

Section 3 of Online Survey

Q1: What year did you register? and what time of year (early season, mid-season, late season, never used)

. tabulate year season

year	1	2	3	4	Total
2007	85	22	2	0	109
2008	14	2	1	1	18
Total	99	24	3	1	127

Q2: on a scale from 1 to 5, where 1=easy and 5 = very difficult how do you rate the following:

. //How easy was it to do the following:

Q2a: first time registration

. tabulate reg

reg	Freq.	Percent	Cum.
easy 1	79	62.70	62.70
2	27	21.43	84.13
3	15	11.90	96.03
4	3	2.38	98.41
difficult 5	2	1.59	100.00
Total	126	100.00	

Q2b:set up a user profile

. tabulate profile

profile	Freq.	Percent	Cum.
easy 1	74	58.73	58.73
2	31	24.60	83.33
3	18	14.29	97.62
4	3	2.38	100.00
Total	126	100.00	

Q2c:Add models/stations to the profile

. tabulate addmods

addmods	Freq.	Percent	Cum.
easy 1	60	47.62	47.62
2	36	28.57	76.19
3	21	16.67	92.86
4	6	4.76	97.62
difficult 5	3	2.38	100.00
Total	126	100.00	

Q2d:view model and station results

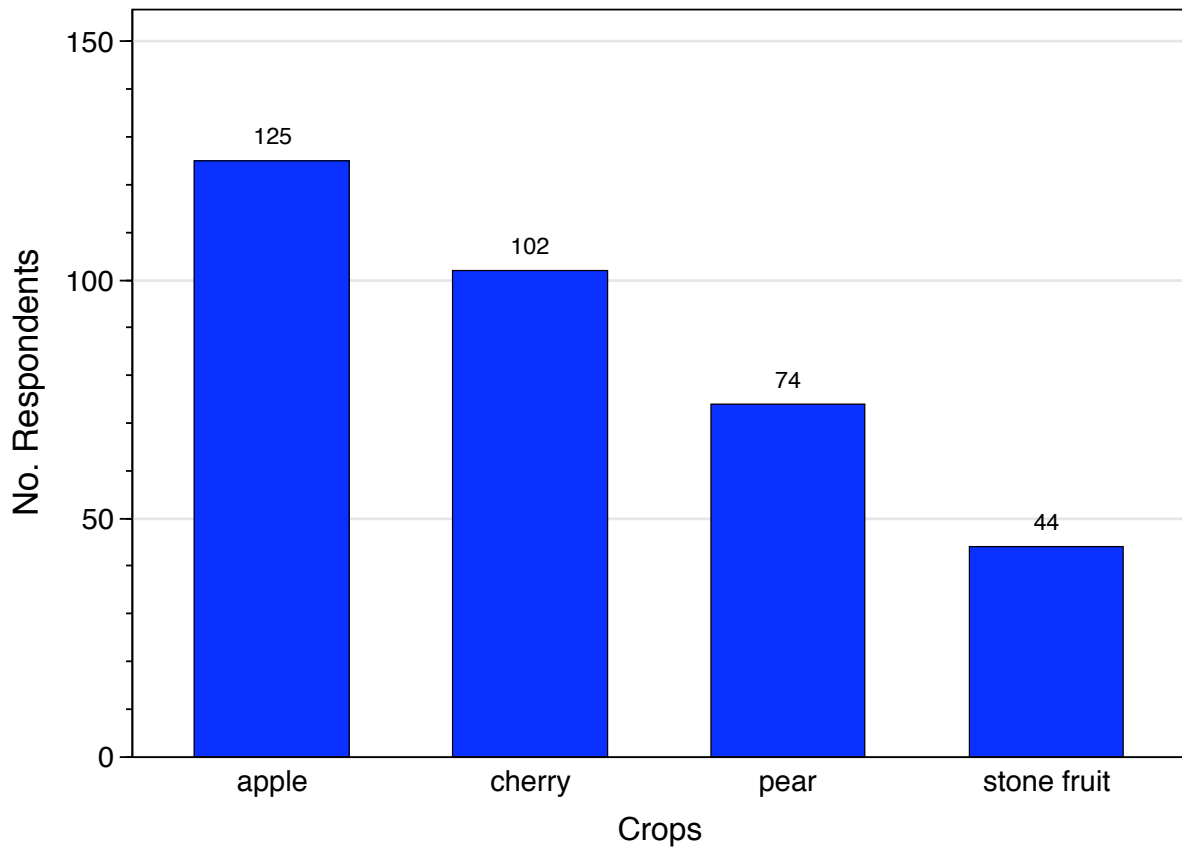
. tabulate vwgraf

vwgraf	Freq.	Percent	Cum.
easy 1	66	52.38	52.38
2	32	25.40	77.78
3	24	19.05	96.83
4	3	2.38	99.21
difficult 5	1	0.79	100.00
Total	126	100.00	

Overall on Q2:

stats	reg	profile	addmods	vwgraf
N	126	126	126	126
mean	1.59	1.60	1.86	1.74
sd	.91	.82	1.02	.905
min	1	1	1	1
max	5	4	5	5
p10	1	1	1	1
p25	1	1	1	1
p50	1	1	2	1
p75	2	2	2	2
p90	3	3	3	3

Q3:which crops did you use on DAS?



```
. tabulate apple
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apple	Freq.	Percent	Cum.
no	2	1.57	1.57
yes	125	98.43	100.00
Total	127	100.00	

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. tabulate pear
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pear	Freq.	Percent	Cum.
no	53	41.73	41.73
yes	74	58.27	100.00
Total	127	100.00	

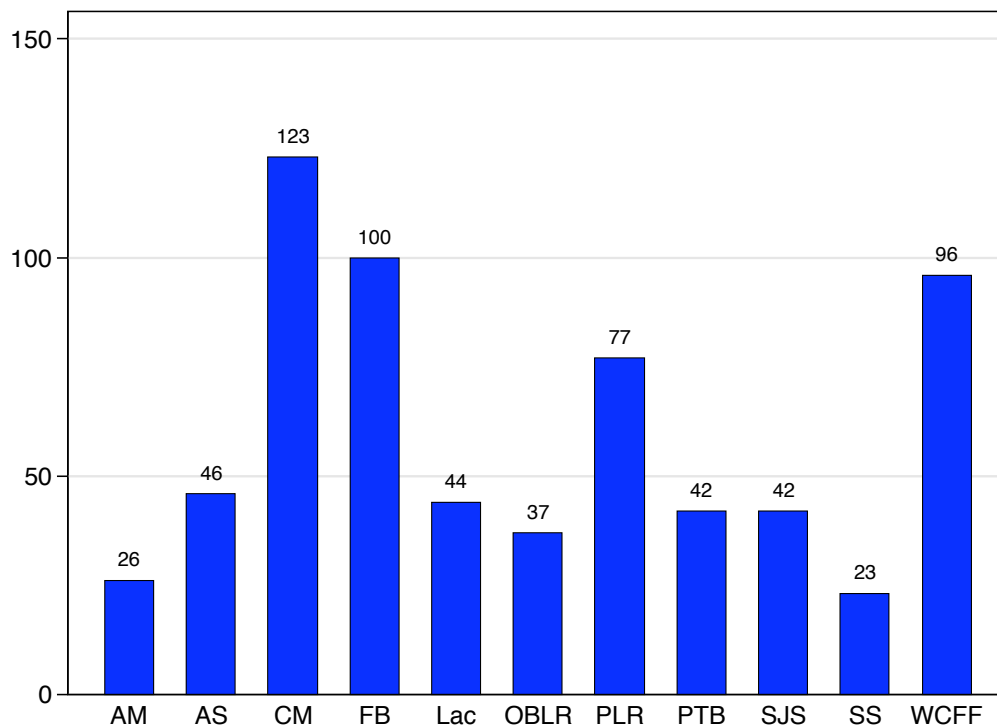
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. tabulate cherry
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cherry	Freq.	Percent	Cum.
no	25	19.69	19.69
yes	102	80.31	100.00
Total	127	100.00	

```
. tabulate stone
```

stone	Freq.	Percent	Cum.
no	83	65.35	65.35
yes	44	34.65	100.00
Total	127	100.00	

Q4: Which models did you use?



Q4a: apple maggot

maggot	Freq.	Percent	Cum.
0	101	79.53	79.53
1	26	20.47	100.00
Total	127	100.00	

Q4b: Codling Moth

CM	Freq.	Percent	Cum.
0	4	3.15	3.15
1	123	96.85	100.00
Total	127	100.00	

Q4c: Lacanobia fruit moth

lacanobia	Freq.	Percent	Cum.
0	83	65.35	65.35
1	44	34.65	100.00
Total	127	100.00	

Q4e: Obliquebanded leafroller

oblr	Freq.	Percent	Cum.
0	90	70.87	70.87
1	37	29.13	100.00
Total	127	100.00	

Q4f: *Pandemis* leafroller

plr	Freq.	Percent	Cum.
0	50	39.37	39.37
1	77	60.63	100.00
Total	127	100.00	

Q4g: Peach Twig Borer

ptb	Freq.	Percent	Cum.
0	85	66.93	66.93
1	42	33.07	100.00
Total	127	100.00	

Q4h: San Jose Scale

sjs	Freq.	Percent	Cum.
0	85	66.93	66.93
1	42	33.07	100.00
Total	127	100.00	

Q4i: Western Cherry Fruit Fly

wcff	Freq.	Percent	Cum.
0	31	24.41	24.41
1	96	75.59	100.00
Total	127	100.00	

Q4j: Apple Scab

scab	Freq.	Percent	Cum.
0	81	63.78	63.78
1	46	36.22	100.00
Total	127	100.00	

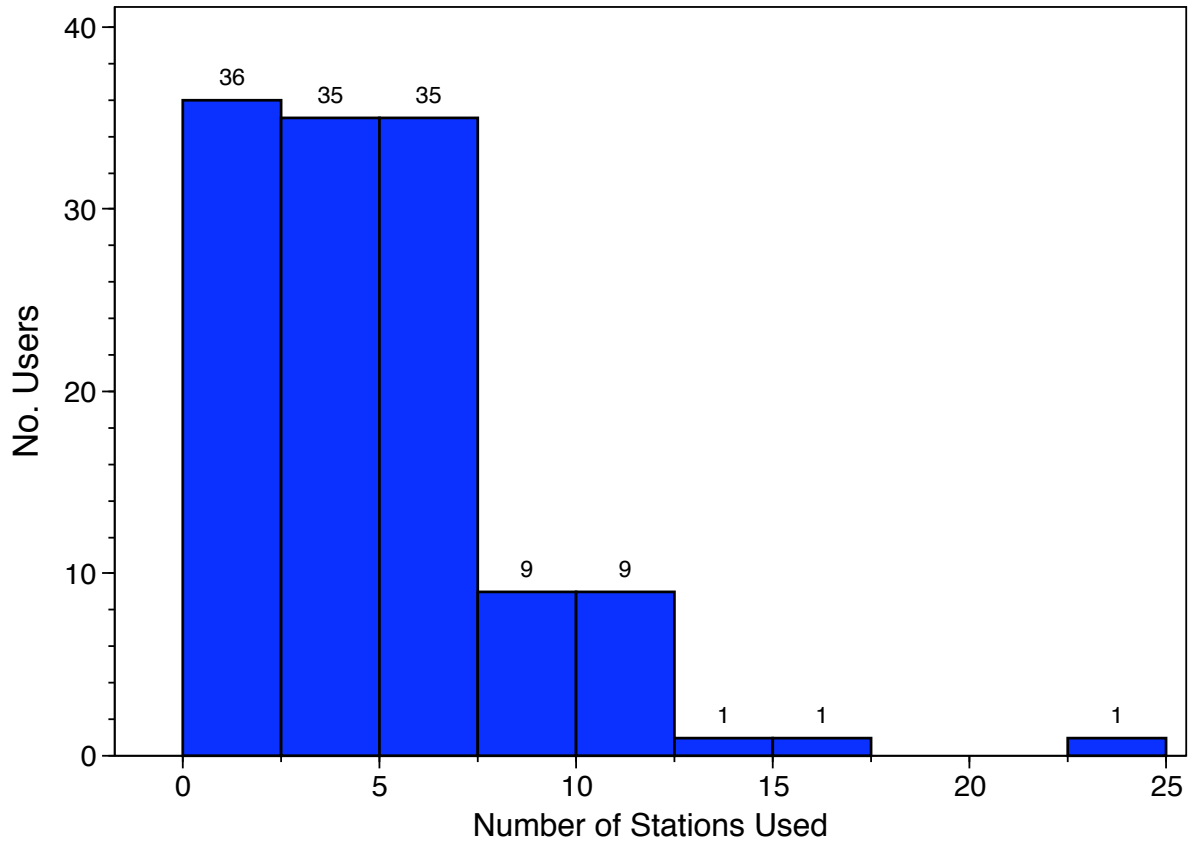
Q4k: Fireblight

blight	Freq.	Percent	Cum.
0	27	21.26	21.26
1	100	78.74	100.00
Total	127	100.00	

Q4l: Storage Scald

scald	Freq.	Percent	Cum.
0	104	81.89	81.89
1	23	18.11	100.00
Total	127	100.00	

Q5: how many stations do you look at?



. tabulate nostations

nostations	Freq.	Percent	Cum.
0	1	0.79	0.79
1	14	11.02	11.81
2	21	16.54	28.35
3	22	17.32	45.67
4	13	10.24	55.91
5	12	9.45	65.35
6	16	12.60	77.95
7	7	5.51	83.46
8	7	5.51	88.98
9	2	1.57	90.55
10	7	5.51	96.06
12	2	1.57	97.64
13	1	0.79	98.43
15	1	0.79	99.21
25	1	0.79	100.00
Total	127	100.00	

Q6. On a scale from 1 to 5, where 1= not useful and 5=very useful (0 = Did not use) , how do you rate the following:

Q6a: Frequently asked question page

. tabulate faq

faq	Freq.	Percent	Cum.
DN use 0	61	48.03	48.03
n useful 1	6	4.72	52.76
2	11	8.66	61.42
3	31	24.41	85.83
4	10	7.87	93.70
v useful 5	8	6.30	100.00
Total	127	100.00	

Q6b. Ability to switch output view from “full view” to “by station” or “by model”

view	Freq.	Percent	Cum.
DN use 0	31	24.41	24.41
n useful 1	4	3.15	27.56
2	6	4.72	32.28
3	40	31.50	63.78
4	26	20.47	84.25
v useful 5	20	15.75	100.00
Total	127	100.00	

Q6c. Management recommendations

man_rec	Freq.	Percent	Cum.
DN use 0	14	11.02	11.02
n useful 1	5	3.94	14.96
2	12	9.45	24.41
3	29	22.83	47.24
4	41	32.28	79.53
v useful 5	26	20.47	100.00
Total	127	100.00	

Q6d. Projected forecast with management recommendations

forc_rec	Freq.	Percent	Cum.
DN use 0	6	4.72	4.72
n useful 1	6	4.72	9.45
2	7	5.51	14.96
3	20	15.75	30.71
4	36	28.35	59.06
v useful 5	52	40.94	100.00
Total	127	100.00	

Q6e. Graphs of the output

graphs	Freq.	Percent	Cum.
DN use 0	12	9.45	9.45
n useful 1	4	3.15	12.60
2	15	11.81	24.41
3	44	34.65	59.06
4	35	27.56	86.61
v useful 5	17	13.39	100.00
Total	127	100.00	

Q6f. links to the pesticide spray guide recommendations - overall rating

sprayrec	Freq.	Percent	Cum.
DN use 0	20	15.75	15.75
n useful 1	5	3.94	19.69
2	15	11.81	31.50
3	30	23.62	55.12
4	31	24.41	79.53
v useful 5	26	20.47	100.00
Total	127	100.00	

Q6g. Spray recommendations - natural enemy effects

spraynat	Freq.	Percent	Cum.
DN use 0	18	14.17	14.17
n useful 1	6	4.72	18.90
2	16	12.60	31.50
3	24	18.90	50.39
4	30	23.62	74.02
v useful 5	33	25.98	100.00
Total	127	100.00	

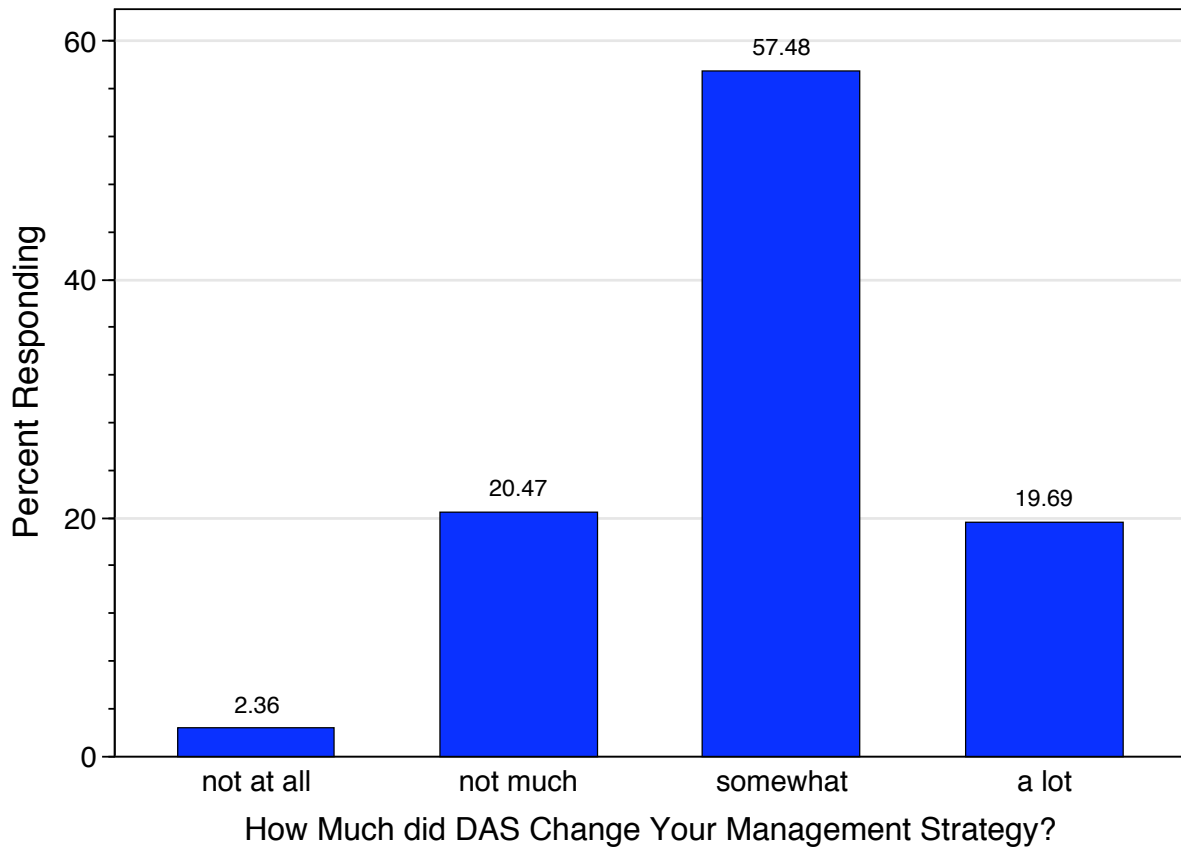
Q6h. Spray recommendations- secondary pest effects

spraysec	Freq.	Percent	Cum.
DN use 0	21	16.54	16.54
n useful 1	3	2.36	18.90
2	16	12.60	31.50
3	27	21.26	52.76
4	31	24.41	77.17
v useful 5	29	22.83	100.00
Total	127	100.00	

Q6 overall: (1 = not useful, 5 = very useful) (eliminates those who didn't use the feature)

stats	faq	view	man_rec	forc_rec	graphs	sprayrec	spraynat	spraysec
N	66	96	113	121	115	107	109	106
mean	3.05	3.54	3.63	4.0	3.4	3.54	3.62	3.63
sd	1.08	1.03	1.08	1.13	1.01	1.14	1.21	1.12
min	1	1	1	1	1	1	1	1
max	5	5	5	5	5	5	5	5
p10	2	2	2	2	2	2	2	2
p25	2	3	3	3	3	3	3	3
p50	3	3	4	4	3	4	4	4
p75	4	4	4	5	4	4	5	4
p90	5	5	5	5	5	5	5	5

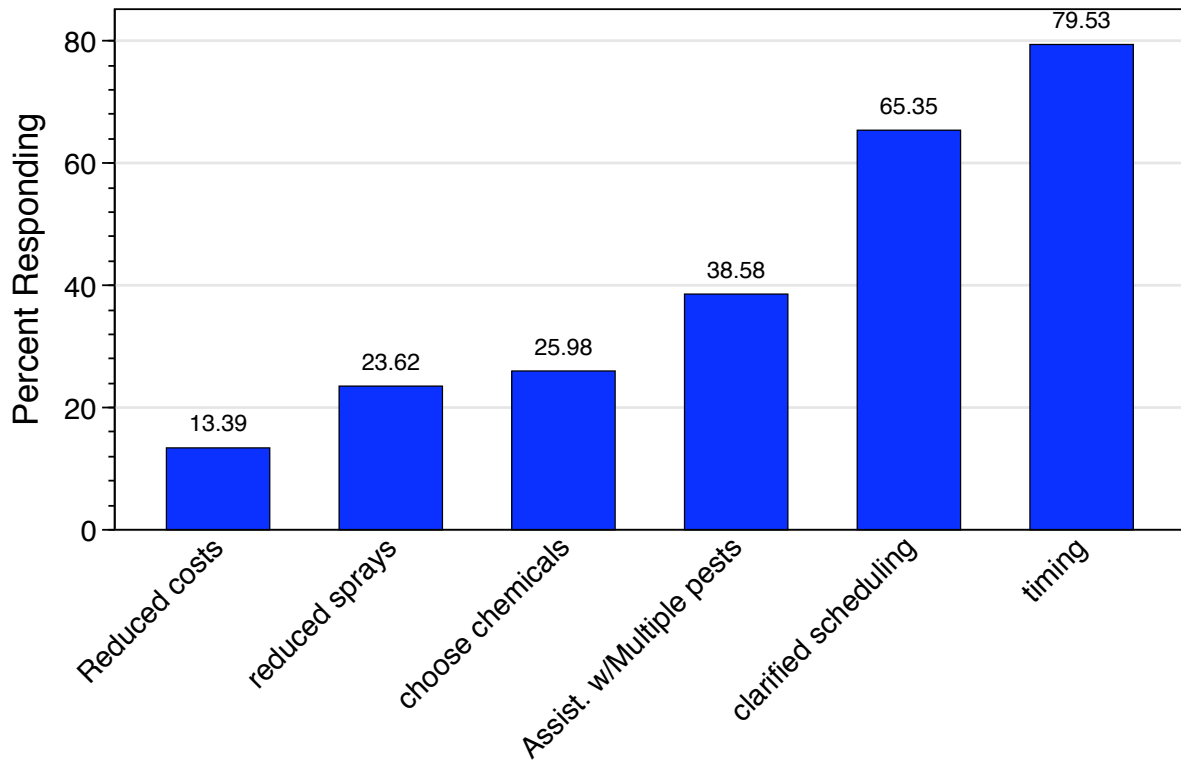
Q7. How much did DAS change your management strategy?



. tabulate effect

effect	Freq.	Percent	Cum.
not at all	3	2.36	2.36
not much	26	20.47	22.83
somewhat	73	57.48	80.31
a lot	25	19.69	100.00
Total	127	100.00	

Q8: how did das affect your program?



Ways DAS Helped Users

Q8a: modified timing

timing	Freq.	Percent	Cum.
no 0	26	20.47	20.47
yes 1	101	79.53	100.00
Total	127	100.00	

Q8b:Reduced sprays

redspray	Freq.	Percent	Cum.
no 0	97	76.38	76.38
yes 1	30	23.62	100.00
Total	127	100.00	

Q8c: Clarified scheduling

schedul	Freq.	Percent	Cum.
no 0	44	34.65	34.65
yes 1	83	65.35	100.00
Total	127	100.00	

Q8d: helped choose chemicals

chems		Freq.	Percent	Cum.
no	0	94	74.02	74.02
yes	1	33	25.98	100.00
Total		127	100.00	

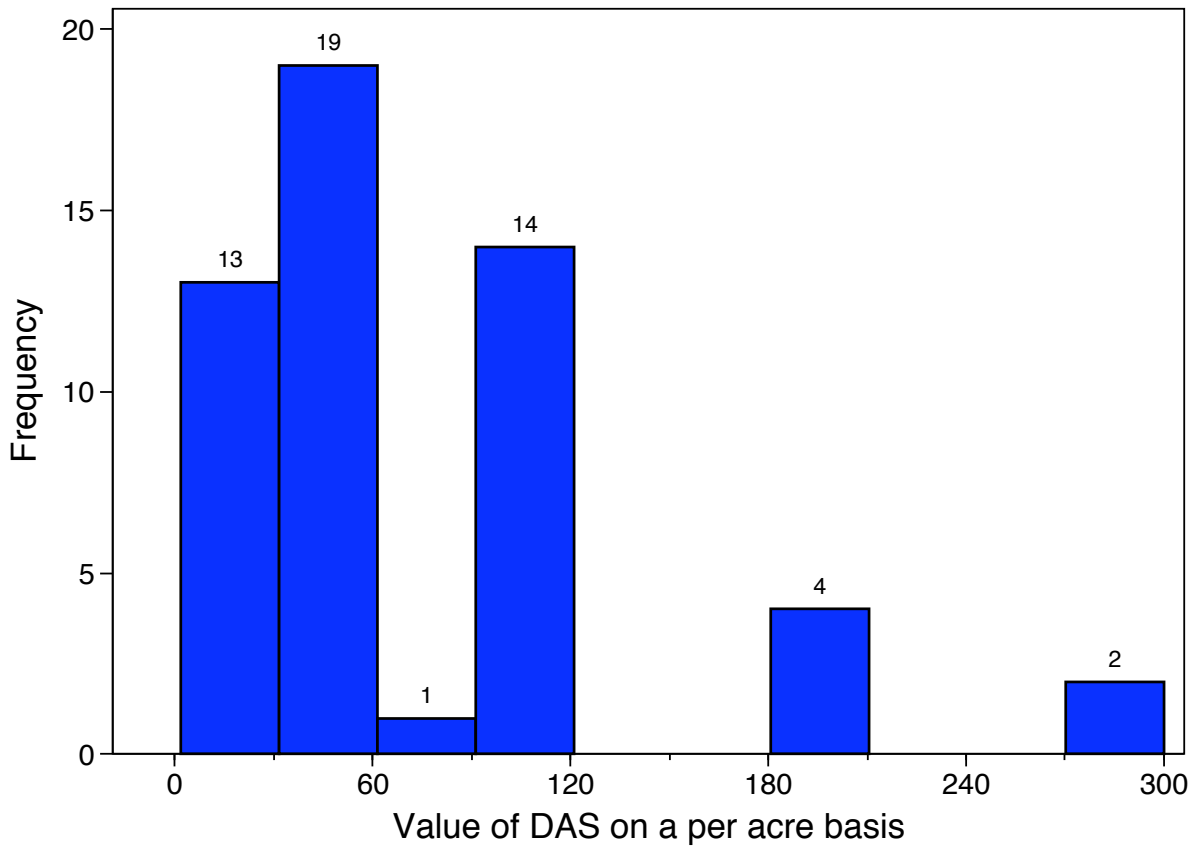
Q8e: Reduced Costs

redcost		Freq.	Percent	Cum.
no	0	110	86.61	86.61
yes	1	17	13.39	100.00
Total		127	100.00	

Q8f: Assisted with multiple pest issues

multiple		Freq.	Percent	Cum.
no	0	78	61.42	61.42
yes	1	49	38.58	100.00
Total		127	100.00	

Q9: Assessing the value of WSU-DAS to your management practices, how much did using this system roughly save you on a per acre basis?



```
. tabstat dasvalue if dasvalue>0 & dasvalue<400, statistics( mean min max p25 p50 p75 p90 count ) columns(variables)
```

This is censored to eliminate extra-high values and 0 values

stats	dasvalue
mean	75.77358
min	2
max	300
p25	35
p50	50
p75	100
p90	200
N	53

```
. tabstat dasvalue, statistics( mean min max p25 p50 p75 p90 count ) columns(variables)
```

This is all values reported

stats	dasvalue
mean	73.74713
min	0
max	1500
p25	0
p50	30
p75	100
p90	200
N	87

Q10: Which three models are the most important to you?

Q10a: Most important

```
. tabulate fstmodel
```

fstmodel	Freq.	Percent	Cum.
CAMP	1	0.79	0.79
CM	92	73.02	73.81
FBL	23	18.25	92.06
OBLR	1	0.79	92.86
PLR	1	0.79	93.65
PTB	1	0.79	94.44
SCAB	3	2.38	96.83
WCFF	4	3.17	100.00
Total	126	100.00	

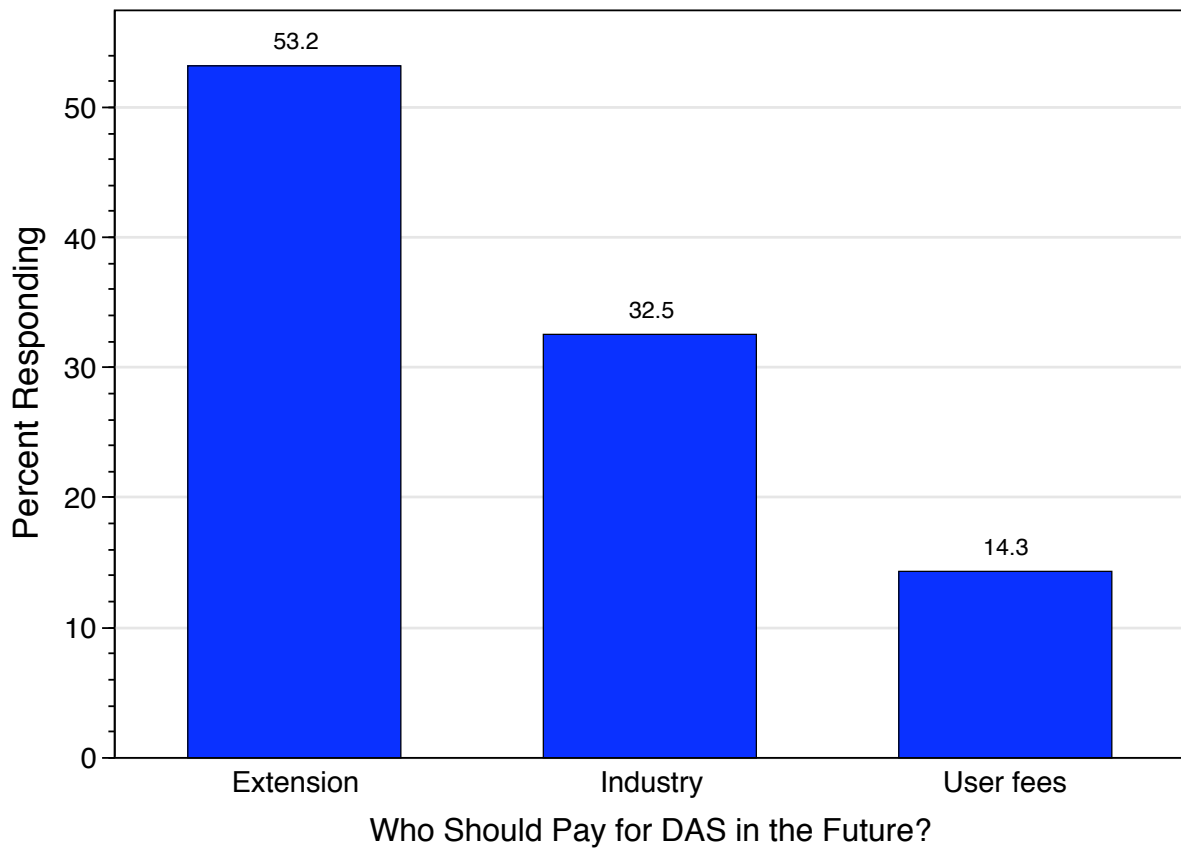
Q10b: Second most important

sndmodel	Freq.	Percent	Cum.
AM	2	1.59	1.59
CAMP	2	1.59	3.17
CM	27	21.43	24.60
FBL	35	27.78	52.38
OBLR	17	13.49	65.87
PLR	10	7.94	73.81
PTB	3	2.38	76.19
SCAB	1	0.79	76.98
SJS	1	0.79	77.78
WCFF	28	22.22	100.00
Total	126	100.00	

Q10c: Third most important

trdmodel	Freq.	Percent	Cum.
AM	4	3.17	3.17
CAMP	1	0.79	3.97
CM	4	3.17	7.14
FBL	27	21.43	28.57
LAC	1	0.79	29.37
OBLR	20	15.87	45.24
PLR	14	11.11	56.35
PTB	8	6.35	62.70
SCAB	9	7.14	69.84
SCALD	2	1.59	71.43
WCFF	36	28.57	100.00
Total	126	100.00	

Q11: Currently, WSU-DAS is funded solely by the Tree Fruit Research Commission grants. Clearly, this is a short-term solution for future development and maintenance of the application. How do you think WSU-DAS should be supported in the future?

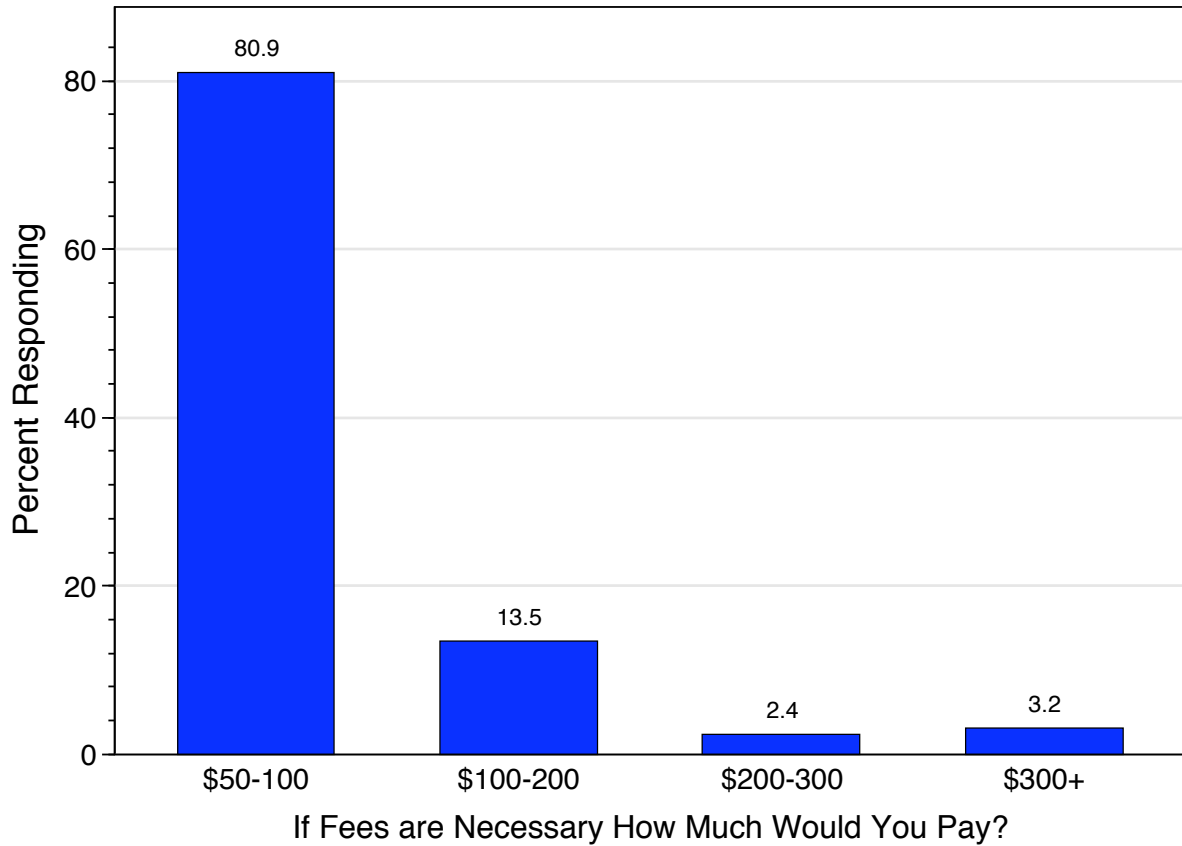


tabulate funding

funding	Freq.	Percent	Cum.
Extension	67	53.17	53.17
Industry	41	32.54	85.71
User-fees	18	14.29	100.00
Total	126	100.00	

Q11: if WSU-DAS must resort to a user fee, what kind of yearly fee schedule do you think would be reasonable to continue using WSU-DAS? (This fee would be per user, regardless of the number of stations used)

fees	Freq.	Percent	Cum.
\$50-100	102	80.95	80.95
\$100-200	17	13.49	94.44
\$200-300	3	2.38	96.83
# 300+	4	3.17	100.00
Total	126	100.00	



Comments on other ways that WSU-DAS affected the IPM program:

1. Sprayed based on fact instead of on a hunch.
2. Confirmed strategies
3. Helps validate new pest control strategies when discussing options with a grower. It is very useful to show a grower a model on the laptop in the field.
4. Confidence to quit using OPs
5. Facilitated spray timing
6. It makes gathering the data orders of magnitude easier, one stop shopping
7. This program has made timing of new chemistry better and more effective. I am sorry to say it does not save growers money. Growers were forced to new chemistry for pest control. The WSU-DAS is the tool needed to make new chemicals effective but has increased the number of times growers spray due to short lived effect of new products used today plus increased cost of new chemistry
8. Still learning to use

Other models people would like to see added:

1. Oriental Fruit moth
2. If possible, a water consumption model similar to the old PAWS system. This would help growers blend water consumption of crops with water applications.
3. Apple mildew, sunburn, pear psylla
4. Apple mildew
5. Peach tree borer
6. Powdery mildew
7. More definite models of beneficial s life cycles, Mildew models
8. OFM
9. Thrips
10. Pear psylla. Grape mealybug.
11. Models of beneficials that coincide with the pests they effect
12. Oriental Fruit Moth, Pear Psylla
13. Grape mealybug (if model existed), Oriental Fruit Moth
14. Pear Psylla, Oriental Fruit Moth, pollen tube growth
15. Shot hole borer
16. Apple and cherry mildew model
17. Berry crops
18. Natural enemy models, rosy apple aphid
19. Thinning plant growth models
20. Apple mildew, cherry mildew

Comments that people would like to share on WSU-DAS

1. I have gotten the most benefit using the fireblight models, although the other models are great for quick checks on various pests and their development.
2. On the scab model I would like to a rating of high, moderate and low risk for scab. On the mildew model I would like to be able to see the risk number at the top of each screen like blight and codling moth models. Keep in mind you may increase revenue by spraying more and at the right time thus reducing crop loss. Revenue losses due to crop damage from blight, scab, leafroller and codling moth cullage can add up fast if you don't spray.
3. I find the next question interesting. What happened to the \$800,000.00 in permanent base-line funding from the government? *(note this is in response to Q11)*
4. If fees are necessary in the future from users, a corporate account fee would also be a nice option. Many of the current users are consultants and their companies would gladly pay for their fees.
5. Good stuff-thanks Vince and Jay and company! I figure this will be the portal to link to other lists of papers and data specific to topics from chem thinning to fertilizers
6. Would like it linked to the Walla Walla Valley Weathernet
7. It would be nice if the industry could continue to fund it, but it's important and useful enough that I would be willing to pay whatever it takes to keep it in operation. It would be helpful if there was a more clear explanation on how to enter user defined station information. The tab & comma usage is a little unclear. All in all the system is clear & intuitive.
8. My experience with DAS is in its infancy. I expect its value to me will be much greater than indicated herein, as I use it more.
9. I have had problems setting my biofix and changing my fireblight risk. I did get help for my biofix problem--Thank you!!
10. I have not used this system this year as my biofix date of 5/6/08 kept defaulting to 5/12/08 and therefore my DD were incorrect. Have relied on fieldman for spray recommendations.
11. This is a sweet system, the linkage of the AWN to the DAS has created a real management tool. connections to more weather forecasts like Clearwest.
12. Keep up the good work.
13. I believe that the state as a whole should be a part of funding WSU-DAS network. Many groups and individuals have contributed to the loss of spray materials, and demanded more accountability of our state Farmers. The Department of Ag from Washington should contribute, our legislators should see that this is done. When the people of the state demand something and a tool as this good is found to help meet the demand needs it should be funded by all who asked for softer chemical program, that need better timing. Growers did not ask for this, this was forced on them and they are thankful to research and WSU for their help. Now people of our State have softer chemical programs let all of the state help fund what they wanted, to make the new chemistry useful and effective and safe.
14. The fact that control recommendations are linked to current weather and degree day modeling is invaluable in control timing.
15. We need more on the life behavior of pest and prey, where are they at night?, during the day?, when it's hot?, when it's cool? Best time of day to spray for pest?, best for prey?
16. This tool is an amazing asset but more important are the people who created it! Thank you...thank you....thank you.

17. It should be used more by people in the ag community
18. Need an Ag weather net site in Chelan valley. DAS is a great asset to me and I encourage my growers to use it.
19. It is a very useful system and it continues to get better.
20. *Campylomma* model was completely inaccurate this year. I used it and ended up with significant fruit injury, despite spraying according to the model, since it predicted hatch later than occurred
21. Excellent tool for scheduling scouting activities. Scouting when the model indicates that the targeted lifestage is present saves valuable time. Spraying at DAS recommended timings maximizes effect of selected materials.
22. I'm having trouble setting biofix.
23. Will not load some days.
24. Having difficulty setting user provided biofix date.
25. DAS has not saved a dime. Hope to see less crop damage due to CM and OBLR/PL, GMB and woollies.
26. I find the DAS a useful tool and would miss it if it were not available.
27. Very helpful program which I use every day
28. Would be nice if biofix dates for codling moth could be available on the web somewhere