

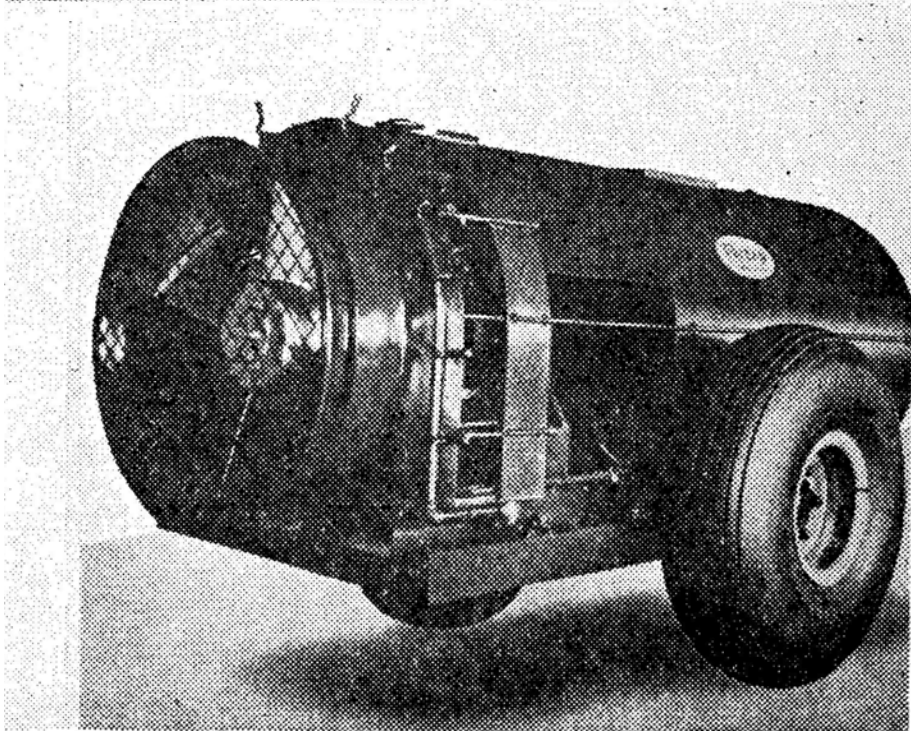
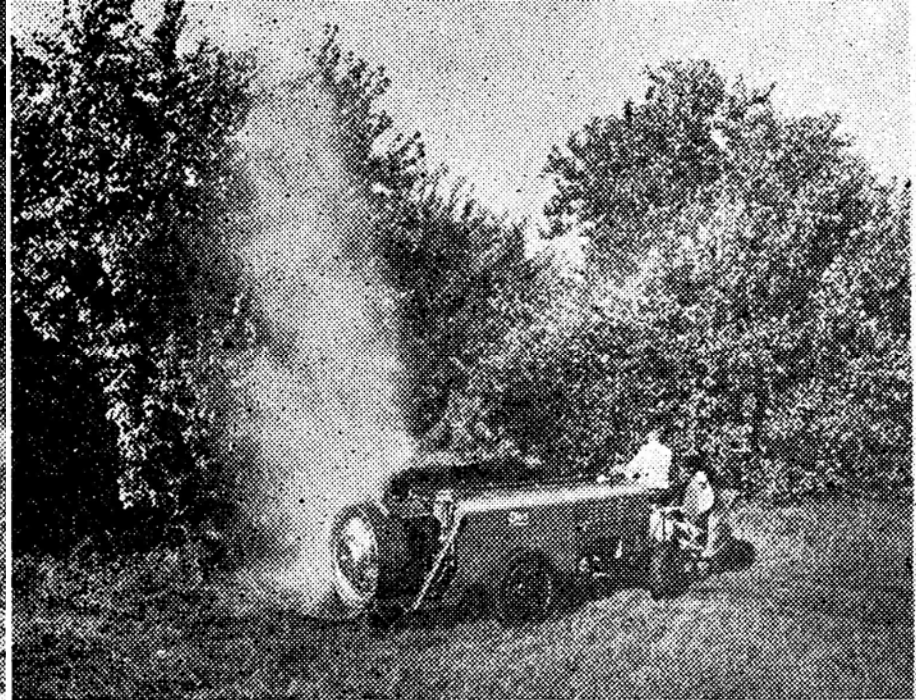
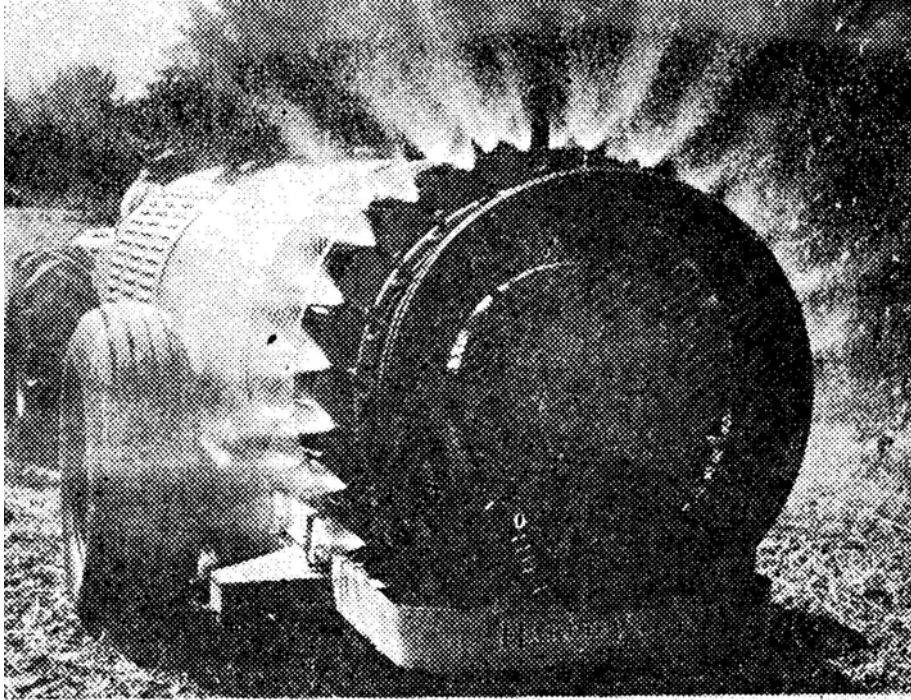
Airblast Sprayer Calibration

**Franz Niederholzer, Farm Advisor
Tehama Prune Day
February 29, 2008**



**University of California
Cooperative Extension**

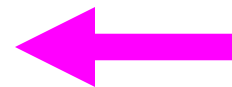
**Agriculture & Natural Resources
Central Valley Region**



Photos from

Modern Fruit Science, 2nd Ed.

1961



by Norm Childers

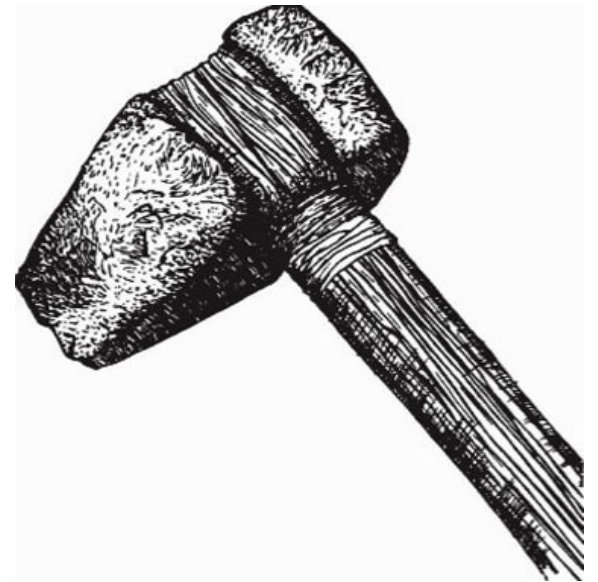
Actual sprayer maintenance issues observed in the field (outside of Tehama County).

Sulfur clogged filter. ↓



↑
Broken pressure gauge
(Sprayer pump not running.)

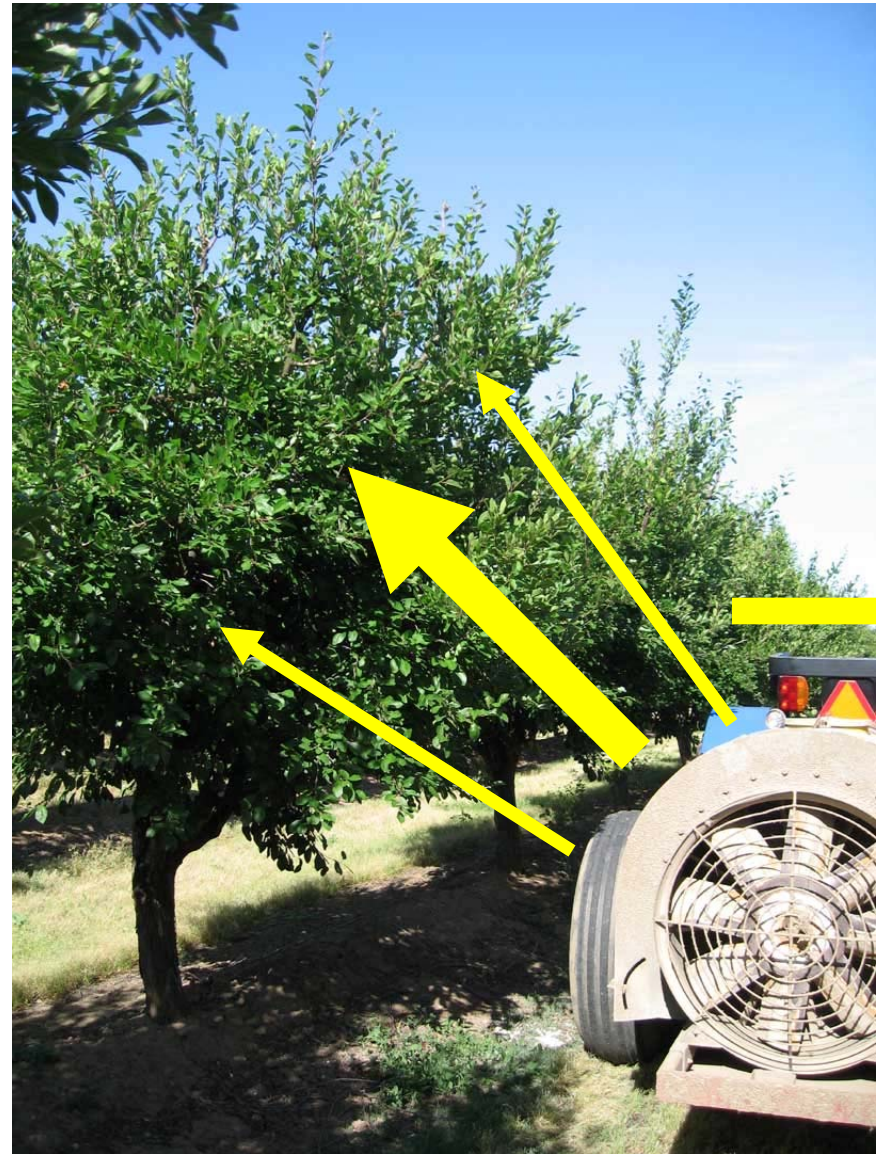
Don't measure with a laser, mark with chalk, and cut with a dull axe.



Effective, responsible pest management requires accurate pesticide delivery.



Calibrate/set up
to match the
spray delivery to
the target
orchard.



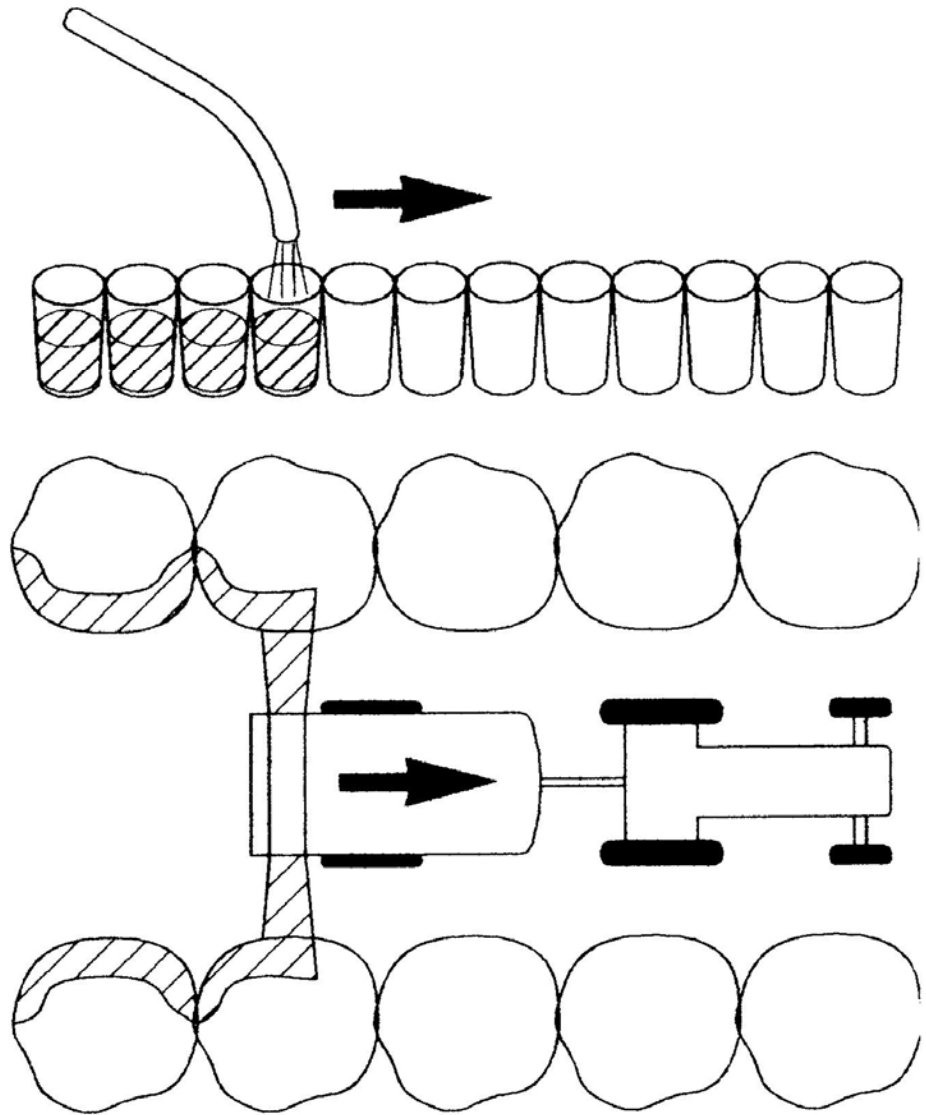
Deliver the right amount of pesticide per acre.



How fast are you going to drive?



Ground speed directly affects air movement.



Measure tractor speed.



Determine swath width and calculate area sprayed.



Calculate desired spray output in GPM.

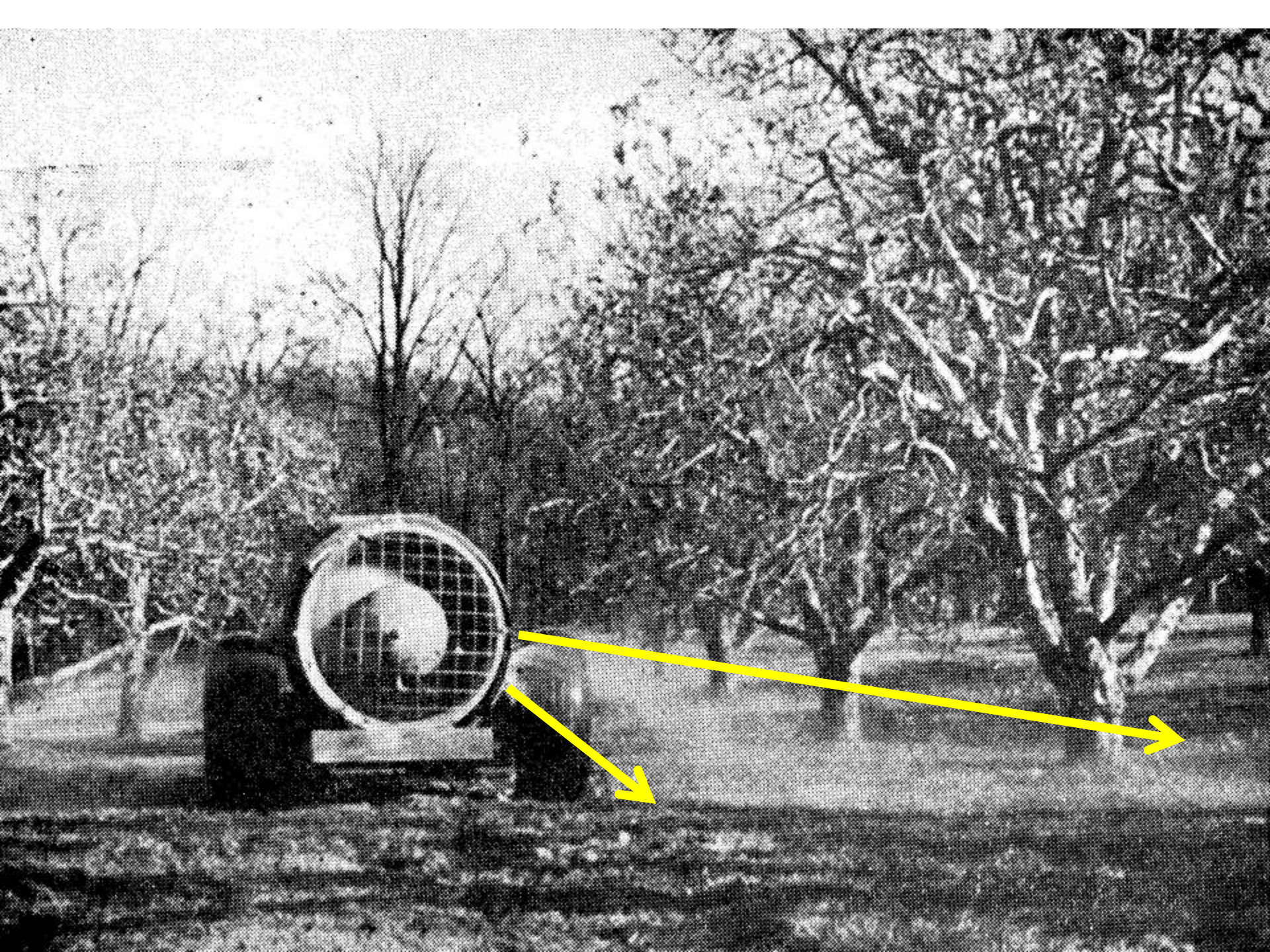
Ground speed: **2 MPH**

Row spacing: **18' x 18'**

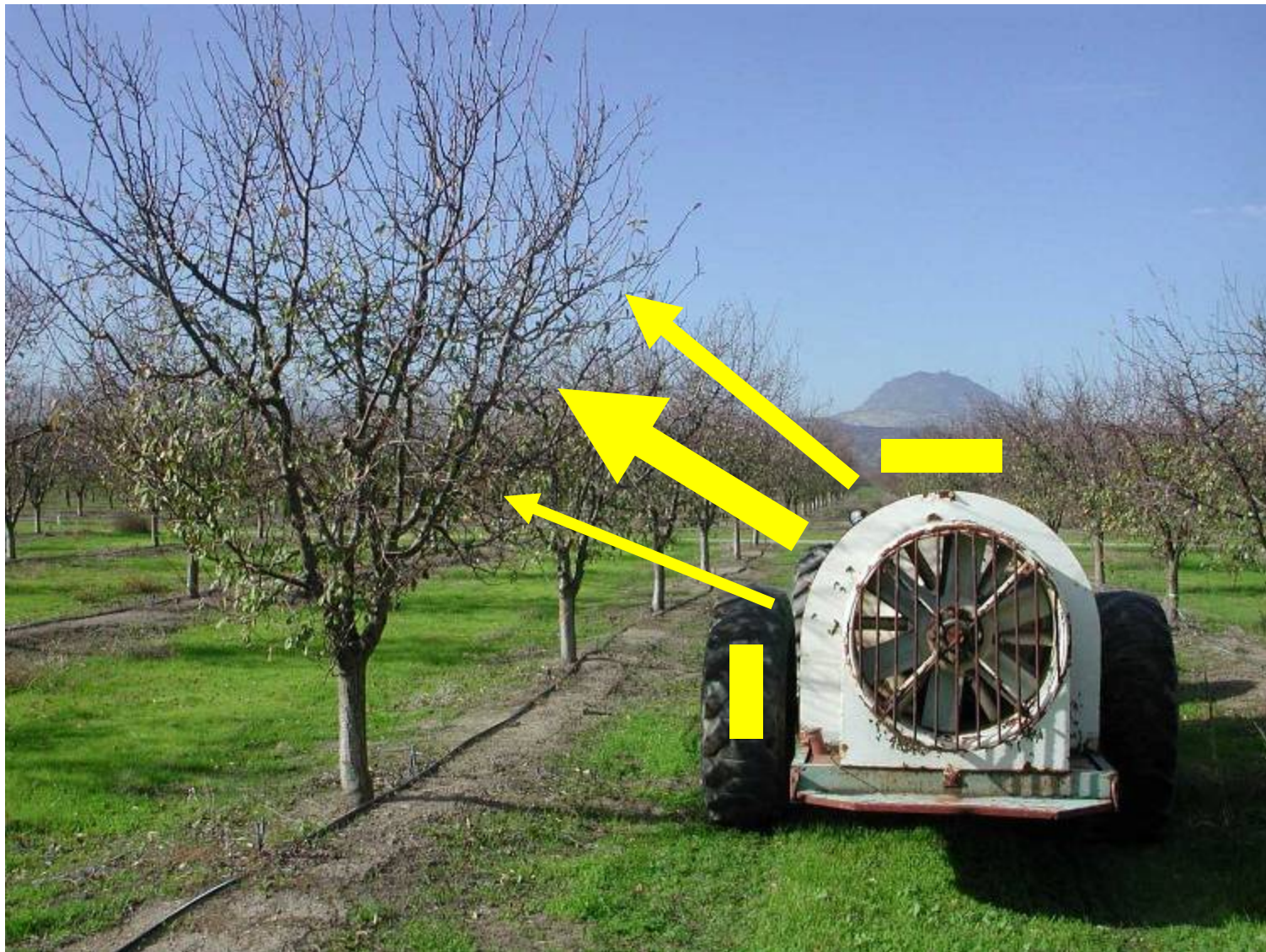
Select desired GPA: **100**

Calculate GPM needed to deliver GPA in that orchard.

Example: **3.6 GPM (per side)**



Target the tree.



Take the sprayer out to the orchard(s) to be sprayed.



ConeJet Disc-Core Type Spray Nozzles

Orifice Discs
Ceramic Sizes Available: DCER-1 through DCER-8, DCER-10.



Cores
Ceramic Sizes Available: DC13-CER, DC23-CER, DC25-CER, DC31-CER, DC33-CER, DC35-CER, DC46-CER, DC48-CER, DC56-CER.



How to order:
To order orifice disc only, specify disc no., material.

- DCER-2 - Ceramic
- D2 - Hardened Stainless Steel
- DE-2 - Stainless Steel
- DVP-2 - Polymer

To order core only, specify core no., material.

- DC13-CER - Ceramic
- DC13-HSS - Hardened Stainless Steel
- DC13-AL - Aluminum
- DC13 - Brass
- DC13-NY - Nylon

Color-coding applies to polymer only.



Full Cone Spray Pattern
Produced by Cores #31, 33, 35, & 56

Typical Assembly with Ceramic Disc and Core



*Use DVS223-NY gasket when 4514-NY nylon slotted strainer is not used.

26278-1-NYR Quick TeeJet® Cap
For ceramic disc and core.
See page 3 for ordering information.



Hollow Cone Type Spray Tips

Strainer	Disc	Core	GPA	GPM																
				10	20	30	40	50	60	80	100	120	150							
D1	DC21	031*	031*	---	---	028	069	078	088	---	113	120	132	---	---	---	---	---	---	---
D1.5	DC21	038*	038*	---	---	067	067	075	088	098	---	117	124	137	---	---	---	---	---	---
D2	DC21	041*	041*	---	---	075	085	090	101	112	---	124	131	144	---	---	---	---	---	---
D3	DC21	047*	047*	---	---	093	093	111	121	134	---	146	153	167	---	---	---	---	---	---
D4	DC21	063*	063*	---	---	120	120	141	151	165	---	178	185	200	---	---	---	---	---	---
D5	DC21	081*	081*	---	---	158	158	183	193	210	---	224	231	247	---	---	---	---	---	---
D6	DC21	101*	101*	---	---	208	208	238	248	268	---	282	289	306	---	---	---	---	---	---
D7	DC21	121*	121*	---	---	268	268	303	313	333	---	347	354	371	---	---	---	---	---	---
D8	DC21	151*	151*	---	---	338	338	378	388	408	---	422	429	446	---	---	---	---	---	---
D9	DC21	181*	181*	---	---	418	418	463	473	493	---	507	514	531	---	---	---	---	---	---
D10	DC21	211*	211*	---	---	508	508	558	568	588	---	602	609	626	---	---	---	---	---	---
D11	DC21	241*	241*	---	---	608	608	663	673	693	---	707	714	731	---	---	---	---	---	---
D12	DC21	271*	271*	---	---	708	708	763	773	793	---	807	814	831	---	---	---	---	---	---
D13	DC21	301*	301*	---	---	808	808	863	873	893	---	907	914	931	---	---	---	---	---	---
D14	DC21	331*	331*	---	---	908	908	963	973	993	---	1007	1014	1031	---	---	---	---	---	---
D15	DC21	361*	361*	---	---	1008	1008	1063	1073	1093	---	1107	1114	1131	---	---	---	---	---	---
D16	DC21	391*	391*	---	---	1108	1108	1163	1173	1193	---	1207	1214	1231	---	---	---	---	---	---
D17	DC21	421*	421*	---	---	1208	1208	1263	1273	1293	---	1307	1314	1331	---	---	---	---	---	---
D18	DC21	451*	451*	---	---	1308	1308	1363	1373	1393	---	1407	1414	1431	---	---	---	---	---	---
D19	DC21	481*	481*	---	---	1408	1408	1463	1473	1493	---	1507	1514	1531	---	---	---	---	---	---
D20	DC21	511*	511*	---	---	1508	1508	1563	1573	1593	---	1607	1614	1631	---	---	---	---	---	---
D21	DC21	541*	541*	---	---	1608	1608	1663	1673	1693	---	1707	1714	1731	---	---	---	---	---	---
D22	DC21	571*	571*	---	---	1708	1708	1763	1773	1793	---	1807	1814	1831	---	---	---	---	---	---
D23	DC21	601*	601*	---	---	1808	1808	1863	1873	1893	---	1907	1914	1931	---	---	---	---	---	---
D24	DC21	631*	631*	---	---	1908	1908	1963	1973	1993	---	2007	2014	2031	---	---	---	---	---	---
D25	DC21	661*	661*	---	---	2008	2008	2063	2073	2093	---	2107	2114	2131	---	---	---	---	---	---
D26	DC21	691*	691*	---	---	2108	2108	2163	2173	2193	---	2207	2214	2231	---	---	---	---	---	---
D27	DC21	721*	721*	---	---	2208	2208	2263	2273	2293	---	2307	2314	2331	---	---	---	---	---	---
D28	DC21	751*	751*	---	---	2308	2308	2363	2373	2393	---	2407	2414	2431	---	---	---	---	---	---
D29	DC21	781*	781*	---	---	2408	2408	2463	2473	2493	---	2507	2514	2531	---	---	---	---	---	---
D30	DC21	811*	811*	---	---	2508	2508	2563	2573	2593	---	2607	2614	2631	---	---	---	---	---	---
D31	DC21	841*	841*	---	---	2608	2608	2663	2673	2693	---	2707	2714	2731	---	---	---	---	---	---
D32	DC21	871*	871*	---	---	2708	2708	2763	2773	2793	---	2807	2814	2831	---	---	---	---	---	---
D33	DC21	901*	901*	---	---	2808	2808	2863	2873	2893	---	2907	2914	2931	---	---	---	---	---	---
D34	DC21	931*	931*	---	---	2908	2908	2963	2973	2993	---	3007	3014	3031	---	---	---	---	---	---
D35	DC21	961*	961*	---	---	3008	3008	3063	3073	3093	---	3107	3114	3131	---	---	---	---	---	---
D36	DC21	991*	991*	---	---	3108	3108	3163	3173	3193	---	3207	3214	3231	---	---	---	---	---	---
D37	DC21	1021*	1021*	---	---	3208	3208	3263	3273	3293	---	3307	3314	3331	---	---	---	---	---	---
D38	DC21	1051*	1051*	---	---	3308	3308	3363	3373	3393	---	3407	3414	3431	---	---	---	---	---	---
D39	DC21	1081*	1081*	---	---	3408	3408	3463	3473	3493	---	3507	3514	3531	---	---	---	---	---	---
D40	DC21	1111*	1111*	---	---	3508	3508	3563	3573	3593	---	3607	3614	3631	---	---	---	---	---	---
D41	DC21	1141*	1141*	---	---	3608	3608	3663	3673	3693	---	3707	3714	3731	---	---	---	---	---	---
D42	DC21	1171*	1171*	---	---	3708	3708	3763	3773	3793	---	3807	3814	3831	---	---	---	---	---	---
D43	DC21	1201*	1201*	---	---	3808	3808	3863	3873	3893	---	3907	3914	3931	---	---	---	---	---	---
D44	DC21	1231*	1231*	---	---	3908	3908	3963	3973	3993	---	4007	4014	4031	---	---	---	---	---	---
D45	DC21	1261*	1261*	---	---	4008	4008	4063	4073	4093	---	4107	4114	4131	---	---	---	---	---	---
D46	DC21	1291*	1291*	---	---	4108	4108	4163	4173	4193	---	4207	4214	4231	---	---	---	---	---	---
D47	DC21	1321*	1321*	---	---	4208	4208	4263	4273	4293	---	4307	4314	4331	---	---	---	---	---	---
D48	DC21	1351*	1351*	---	---	4308	4308	4363	4373	4393	---	4407	4414	4431	---	---	---	---	---	---
D49	DC21	1381*	1381*	---	---	4408	4408	4463	4473	4493	---	4507	4514	4531	---	---	---	---	---	---
D50	DC21	1411*	1411*	---	---	4508	4508	4563	4573	4593	---	4607	4614	4631	---	---	---	---	---	---
D51	DC21	1441*	1441*	---	---	4608	4608	4663	4673	4693	---	4707	4714	4731	---	---	---	---	---	---
D52	DC21	1471*	1471*	---	---	4708	4708	4763	4773	4793	---	4807	4814	4831	---	---	---	---	---	---
D53	DC21	1501*	1501*	---	---	4808	4808	4863	4873	4893	---	4907	4914	4931	---	---	---	---	---	---
D54	DC21	1531*	1531*	---	---	4908	4908	4963	4973	4993	---	5007	5014	5031	---	---	---	---	---	---
D55	DC21	1561*	1561*	---	---	5008	5008	5063	5073	5093	---	5107	5114	5131	---	---	---	---	---	---
D56	DC21	1591*	1591*	---	---	5108	5108	5163	5173	5193	---	5207	5214	5231	---	---	---	---	---	---
D57	DC21	1621*	1621*	---	---	5208	5208	5263	5273	5293	---	5307	5314	5331	---	---	---	---	---	---
D58	DC21	1651*	1651*	---	---	5308	5308	5363	5373	5393	---	5407	5414	5431	---	---	---	---	---	---
D59	DC21	1681*	1681*	---	---	5408	5408	5463	5473	5493	---	5507	5514	5531	---	---	---	---	---	---
D60	DC21	1711*	1711*	---	---	5508	5508	5563	5573	5593	---	5607	5614	5631	---	---	---	---	---	---
D61	DC21	1741*	1741*	---	---	5608	5608	5663	5673	5693	---	5707	5714	5731	---	---	---	---	---	---
D62	DC21	1771*	1771*	---	---	5708	5708	5763	5773	5793	---	5807	5814	5831	---	---	---	---	---	---
D63	DC21	1801*	1801*																	

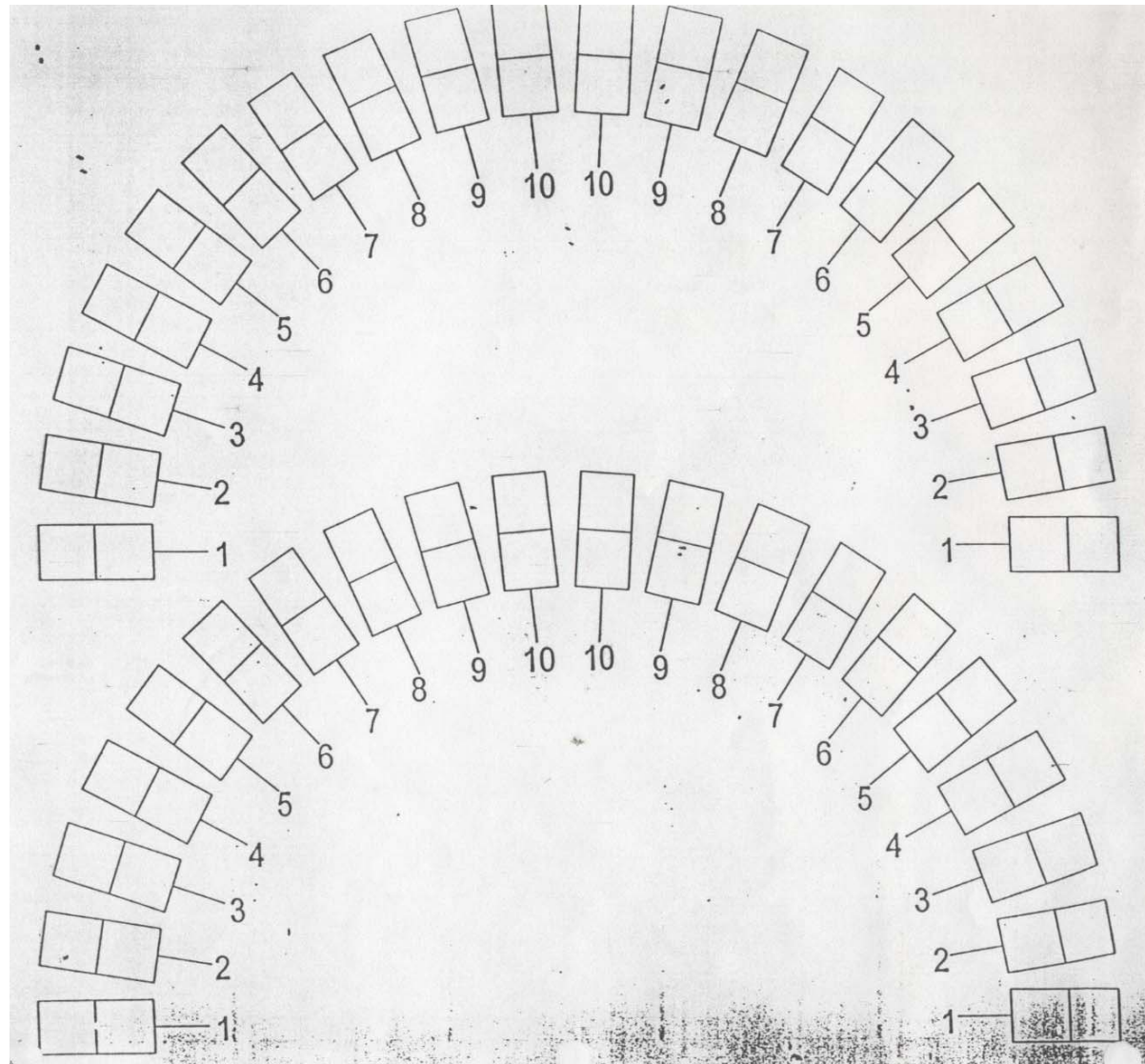
Ground check



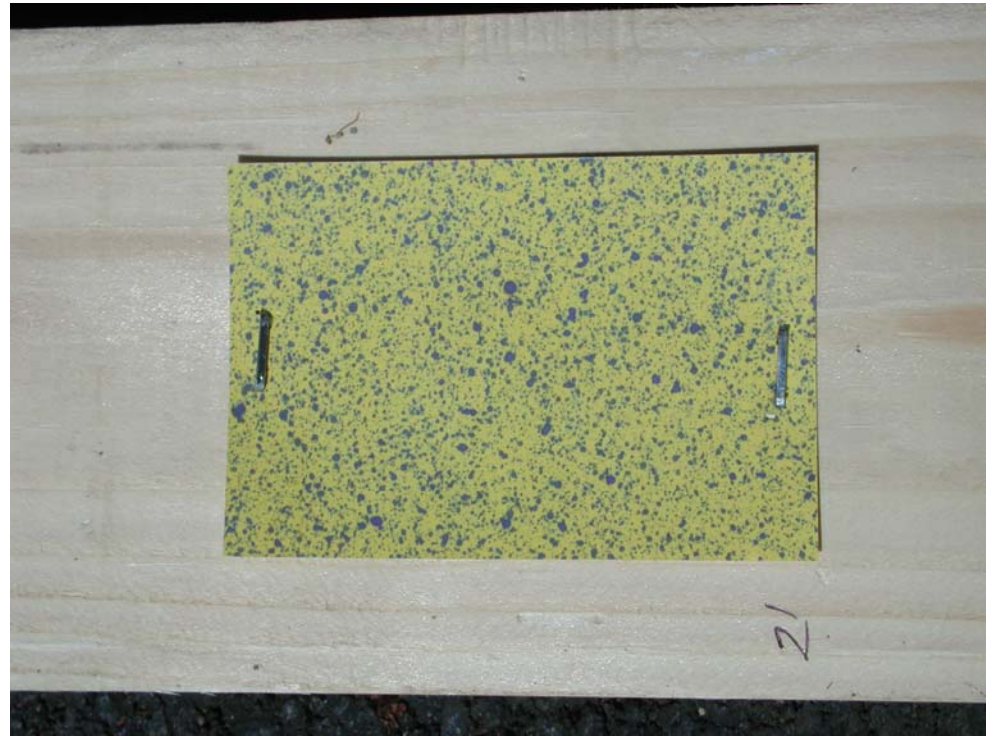
Measure how much was sprayed out.



Keep good records.



Check your coverage.



What is the target?





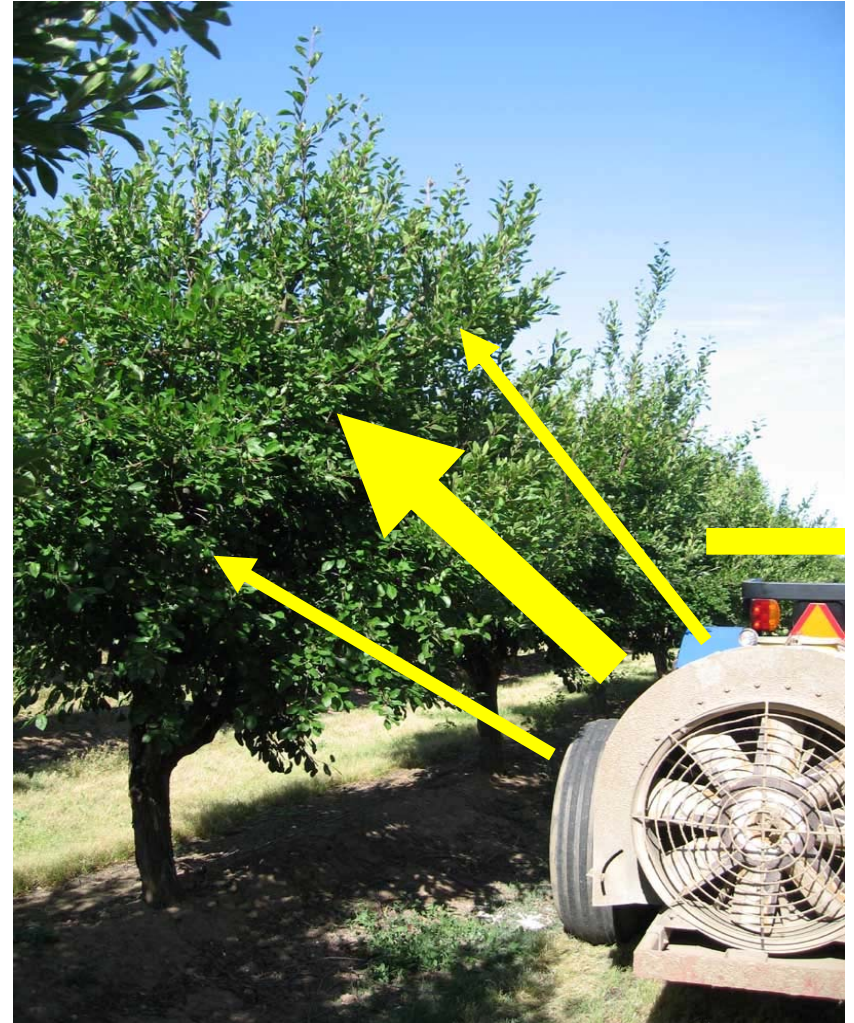
Not all adjuvants do the same job on the same target.



Calibrate the sprayer and target the spray to get the job done right.



Plus



It might be an old axe, but if it is sharp the job will get done.



Thank you

