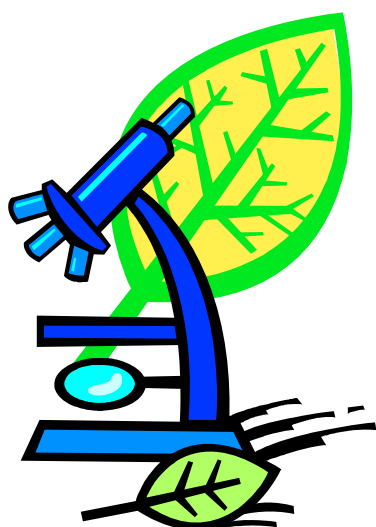


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UNIVERSITY OF ARKANSAS
DIVISION OF AGRICULTURE

Cooperative Extension Service



Plant Health Clinic 2007 Summary Report

Sherrie Smith
Diagnostician
Cooperative Extension
Lonoke, Arkansas
(501)-676-3124

University of Arkansas, United States Department of Agriculture and County Governments Cooperating.

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Sherrie Smith

PLANT Health DIAGNOSTIC CLINIC

-2007 SUMMARY REPORT-

Lonoke Agricultural Extension and Applied Research Center
2001 Highway 70 East
Lonoke, Arkansas 72086

The Plant Disease Diagnostic Clinic in Lonoke received 3,531 plant samples in 2007. The largest number of samples was ornamentals (52%) followed by field crops (26%) and vegetables (11%). Ornamental samples were boosted by 981 hosta samples that were sent from one nursery requesting virus testing. Numbers of field crop samples have significantly increased this year from 718 in 2006 to 910 in 2007. Turf samples remained similar to those numbers in 2006. The clinic continues to see an increase of homeowner samples from both landscapes and gardens.

With SPDN support, the Plant Health Clinic in Arkansas completed its most successful year in history, receiving a record number of samples (40% more than any previous year) from all areas of the state. This was a result of being able to use funds for additional travel in the state and participate in several winter (2006–2007) events that publicized Clinic service, the University Division of Agriculture and SPDN. The portable diagnostic clinic (photo) set up at the Arkansas Flower and Garden Show (9000+ attendees, and the Southeast Arkansas Flower and Garden Show at Pine Bluff (1500+ attendees) was very popular.



The clinic Diagnostician and Soybean Rust monitoring coordinator participated in an Asian Soybean Rust training update for 76 county extension agents and First Detectors April 4–6, 2007. Field diagnosis methods for soybean rust were taught, including identification of symptoms of ASBR and look-alike diseases and the Enviroligix QuikTest for soybean rust. Travel for this event was sponsored by SPDN and the UA Division of Agriculture.

The Plant Health Clinic continued its seasonal newsletter http://www.aragriculture.org/News/plant_clinic/default.htm to the Arkansas public, with 20 timely issues during 2007 that highlighted plant health problems encountered during the growing season. The newsletter was distributed to more than 200 county agents and industry contacts, who distributed it on to several thousand clientele.

Plant Health Clinic News 1: Hawthorn; Roses; Cedar; Apple; Peach; Plum. 3/05/2007.
http://www.aragriculture.org/News/plant_clinic/2007/one2007.pdf

Plant Health Clinic News 2: Holly; Wheat; Slime mold; Centipedegrass. 3/12/2007.
http://www.aragriculture.org/News/plant_clinic/2007/two2007.pdf

Plant Health Clinic News 3: Oak; Hickory; Camellia; Azalea; Iris; Bermuda; Zoysia; Wheat. 3/23/2007.
http://www.aragriculture.org/News/plant_clinic/2007/three2007.pdf

Plant Health Clinic News 4: Apple; Plum; Magnolia; Aucuba; Sapsucker damage; Pepper, St. Augustine. 3/30/2007.
http://www.aragriculture.org/News/plant_clinic/2007/four2007.pdf

Plant Health Clinic News 5: Roses; Lettuce; Asparagus; Oak; Milk thistle; Nematodes. 4/16/2007
http://www.aragriculture.org/News/plant_clinic/2007/five2007.pdf

Plant Health Clinic News 6: Freeze damage; Japanese maples; Yews; Red tip photinia; Pecan. 4/18/2007.
http://www.aragriculture.org/News/plant_clinic/2007/six2007.pdf

Plant Health Clinic News 7: Canola; Lirope; Phlox; Peach; Wheat. 4/26/2007.
http://www.aragriculture.org/News/plant_clinic/2007/seven2007.pdf

Plant Health Clinic News 8: Blackberry; Corn; Pine; Pieris. 5/04/2007.
http://www.aragriculture.org/News/plant_clinic/2007/eight2007.pdf

Plant Health Clinic News 9: Austrian Pine; Oak; Tomato; Ivy; Clematis. 5/11/2007.
http://www.aragriculture.org/News/plant_clinic/2007/nine2007.pdf

Plant Health Clinic News 10: Beans; Hawthorn; Squash; Tomato. 5/21/2007.
http://www.aragriculture.org/News/plant_clinic/2007/ten2007.pdf

Plant health Clinic News 11: Cucurbits; Strawberries; Spruce; Juniper; Herbicide damage. 6/04/2007.
http://www.aragriculture.org/News/plant_clinic/2007/eleven2007.pdf

Plant Health Clinic News 12: Forage; Muscadines; Corn; Tomatoes. 6/12/2007.
http://www.aragriculture.org/News/plant_clinic/2007/twelve2007.pdf

Plant Health Clinic News 13: Squash; Cucumber; Blackberries; Tomato; Peach. 6/28/2007.
http://www.aragriculture.org/News/plant_clinic/2007/thirteen2007.pdf

Plant Health Clinic News 14: Corn; Strawberry; Watermelon; Roses; Cotton. 7/03/2007.
http://www.aragriculture.org/News/plant_clinic/2007/fourteen2007.pdf

Plant Health Clinic News 15: Eggplant; Sorghum; Peach; Nectarine; Peas; Corn. 7/16/2007.
http://www.aragriculture.org/News/plant_clinic/2007/fifteen2007.pdf

Plant Health Clinic News 16: Sweet potato; Pumpkin; Hydrangea; Pecan; Sampling for Soybean Cyst Nematode. 8/21/2007.
http://www.aragriculture.org/News/plant_clinic/2007/sixteen2007.pdf

Plant Health Clinic News 17: Peach; Dallisgrass; Azalea; Corn. 9/04/2007.
http://www.aragriculture.org/News/plant_clinic/2007/seventeen2007.pdf

Plant Health Clinic News 18: Heart rot of trees; Maple; Soybean; Corn; Philodendron. 9/11/2007.
http://www.aragriculture.org/News/plant_clinic/2007/eighteen2007.pdf

Plant Health Clinic News 19: Oak; Coneflower; Chrysanthemum; St. Augustine; Take-all-patch; Peaches. 10/05/2007.
http://www.aragriculture.org/News/plant_clinic/2007/nineteen2007.pdf

Plant Health Clinic News 20: Sour mulch; Heuchera; Poinsettia; Stinkhorns. 10/17/2007.
http://www.aragriculture.org/News/plant_clinic/2007/twenty2007.pdf

ELISA TESTS AVAILABLE IN THE CLINIC:

(A) Viral and fungal pathogens tested:

Wheat: Wheat Spindle Streak, Barley Yellow Dwarf, Wheat Soil-Borne Mosaic.
Tomato: Cucumber Mosaic, Tomato Spotted Wilt, Tomato Mosaic.
Soybean: Soybean Mosaic, Tobacco Ringspot, Asian Soybean Rust
Annuals: Tomato Spotted Wilt Spot, General Phytophthora screen.
Melon: General Potyvirus
Hosta: Hosta Virus X, General Potyvirus screen
Fruit Trees: Plum Pox, General Potyvirus screen

Ornamentals: General Phytophthora screen, Tomato Spotted Wilt, Impatiens Necrotic Spot

*The above ELISA tests use a microtiter plate format.

- (B) Sudden Oak Death (SOD) Ornamentals: General Phytophthora Screen-microtiter plate format.
- (C) Immunostrip and Quikstix formats currently used in the clinic include those for Cucumber Mosaic Virus, Tomato Spotted Wilt Virus, Tomato Mosaic Virus, and Asian Soybean Rust. This is a quick-test technology that gives positive or negative results in 15-20 minutes or less.
- (D) Alert LF: These tests offer two-minute detection of key fungal and viral pathogens in a lateral flow test format. The clinic used this technology to quickly test for Pythium, Phytophthora, Rhizoctonia, and Tomato Yellow Curl Virus.

The Plant Health Clinic can be accessed through the Cooperative Extension Service Web site at <http://www.aragriculture.org/diseases/clinic/> . The clinic site contains information about the clinic, sample submission, and services. Additional information regarding ornamental, turf, and fruit diseases is available through this site. The plant disease image library is included on the plant diseases page.

Table 2 lists the number of samples submitted by each county. Pulaski county submitted the largest number of samples (1,256), followed by Lonoke (227), Prairie (128), and Arkansas (124). **Table 1** lists the number of samples per month. November had the largest number of samples with 1,042. June, July and August had the next largest number of samples, with June having the highest sample number (540). Numbers of samples by district are listed in **Table 3**. The Delta had the largest number of samples submitted (2320) followed by the Quachita district (782); by crop type in Figure 1, by year in Figure 2, and by host species in **Table 4**.

Figure 1.

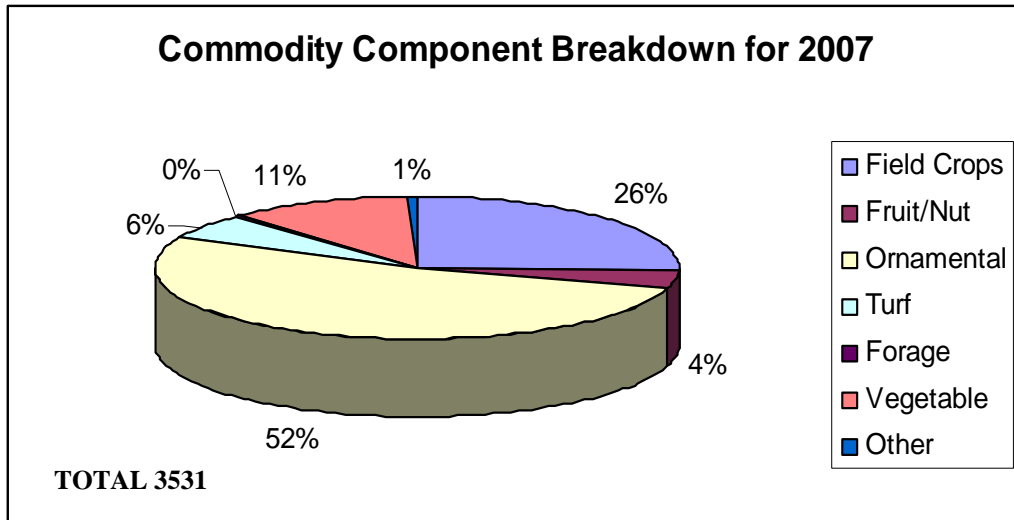


Figure 2.

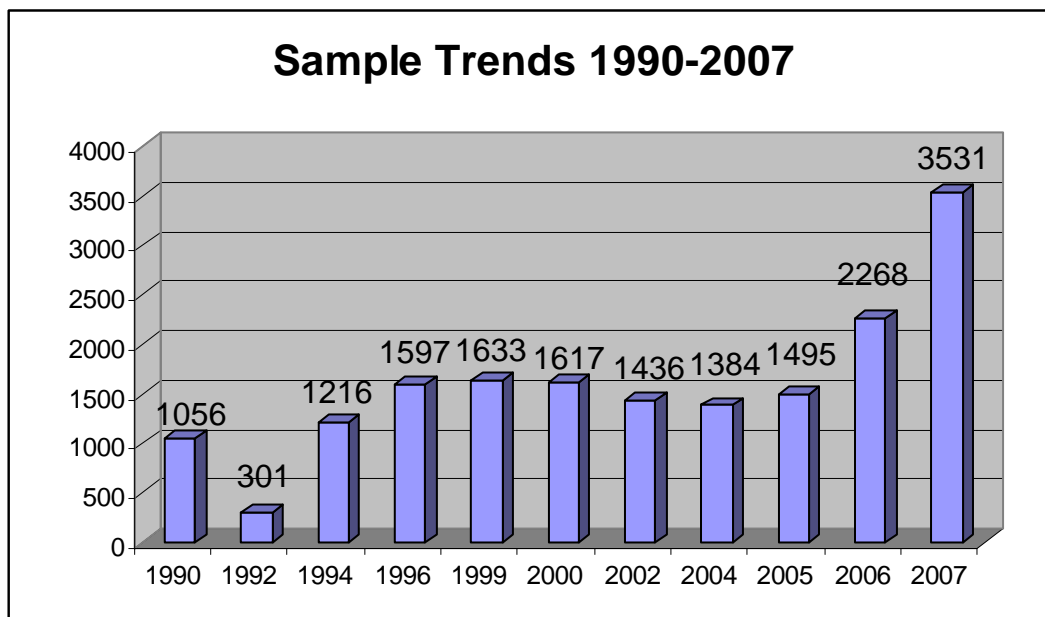


Table 1.

Plant Samples by Month
2007

Month	Number Submitted
JANUARY	151
FEBRUARY	21
MARCH	116
APRIL	131
MAY	291
JUNE	540
JULY	475
AUGUST	415
SEPTEMBER	232
OCTOBER	108
NOVEMBER	1042
DECEMBER	9
Total 3531	

Table 2.**Number of Samples by County for 2007**

County	# submitted	County	#submitted
ARKANSAS	124	ASHLEY	14
BAXTER	66	BENTON	3
BOONE	24	BRADLEY	18
CALHOUN	10	CARROLL	1
CHICOT	30	CLARK	75
CLAY	64	CLEBURNE	1
CLEVELAND	0	COLUMBIA	10
CONWAY	24	CRAIGHEAD	105
CRAWFORD	22	CRITTENDEN	39
CROSS	33	DALLAS	5
DESHA	23	DREW	61
FAULKNER	83	FRANKLIN	23
FULTON	14	GARLAND	34
GRANT	10	GREENE	54
HEMPSTEAD	33	HOT SPRING	52
HOWARD	4	INDEPENDENCE	9
IZARD	10	JACKSON	61
JEFFERSON	99	JOHNSON	3
LAFAYETTE	36	LAWRENCE	57
LEE	50	LINCOLN	4
LITTLE RIVER	12	LOGAN	8
LONOKE	227	MADISON	2
MARION	2	MILLER	11
MISSISSIPPI	29	MONROE	25
MONTGOMERY	6	NEVADA	4
NEWTON	1	QUACHITA	16
PERRY	10	PHILLIPS	34
PIKE	0	POINSETT	51
POLK	8	POPE	17
PRAIRIE	128	PULASKI	1256
RANDOLPH	18	SALINE	34
SCOTT	0	SEARCY	2
SEBASTIAN	10	SEVIER	10
SHARP	6	ST. FRANCIS	25
STONE	5	UNION	13
VAN BUREN	4	WASHINGTON	53
WHITE	97	WOODRUFF	37
YELL	24	OUT OF STATE	13

Total number of samples 3531

Table 3.

Number of Samples by District -2007

District	# submitted
DELTA	2320
QUACHITA	782
OZARK	416
OUT OF STATE	13
Total number of samples	3531

Table 4. Samples by host-2007

Host	Sample #	Host	Sample #
ALFALFA	1	CHERRY-LAUREL	1
ALMOND; FLOWERING	1	CHERRY; WILD CHOKE	1
AMARYLLUS	2	CHERRY YOSHINO	1
ANGEL'S TRUMPET	1	CHESTNUT	2
APPLE	19	CHRISTMAS CACTUS	1
APPLE(ORNAMENTAL)	3	CHRYSANTHEMUM	4
APPLE; COMMON	1	CLEMATIS	5
ARBORVITAE	12	COLEUS	1
ASGROW 5702	1	COLLARDS	2
ASH	1	CORN(GRAIN)	9
ASPARAGUS	1	CORN(SEED)	2
AUCUBA	1	CORN, FIELD	35
AZALEA	39	CORN, SWEET	3
BALD CYPRESS	2	COTTON	12
BARBERRY; JAPANESE	1	CRABAPPLE	8
BEAN, GREEN	3	CRABAPPLE, SARGENTS	1
BEAN, LIMA	1	CRABGRASS	1
BEAN, PINTO	2	CRAPE-MYRTLE	7
BEAN, LIMA (BUTTER)	1	CROTON; GARDEN	1
BEAN;SNAP	2	CRYPTOMERIA	3
BEANS; PEAS; DOLICHOS	3	CUCUMBER	17
BEANS; PEAS; DOLICHOS	5	CYPRESS	3
BEARGRASSES	1	CYPRESS LEYLAND	13
BEGONIA	2	DAYLILY	2
BENTGRASS	4	DOGWOOD	23
BENTGRASS, CREEPING	1	EGGPLANT	2
BERMUDA GRASS	21	ELAEGNUS	4
BIRCH, RIVER	2	ELEPJANT'S EAR	1
BLACKBERRY	6	ELM	1
BLACKBERRY, THORNLESS	8	ELM(ORNAMENTAL)	1
BLUEBERRY	8	ELM, AMERICAN	1
BLUEBERRY;HIGHBUSH	3	EUONYMOUS(SPINDLE TREE)	8
BOXWOOD	10	EUONYMOUS,EVERGREEN	1
BOXWOOD, COMMON	5	EVERGREEN, EUONYMUS	1
BROCCOLI	1	FESCUES	3
BRUSSELS-SPROUTS	1	FICUS	1
BURNING BUSH	1	FIG	1
BUSH BEAN	1	FIG,COMMON	1
CABBAGE	2	FORSYTHIA	2
CAMELLIA	6	FORT FRANCEE 23A	1
CAMELLIA; COMMON	1	FORT FRANCEE 3 GAL	1
CANNA	4	FUNGAL ID	6
CANOLA	5	GARDENIA	1
CANTALOUPE	8	GARDENIA	3
CAULIFLOWER	1	GERANIUM	1
CEDAR	8	GERANIUM IVY LEAF	2
CEDAR; EASTERN RED	2	GINKGO	3
CENTIPEDE PLANT	1	GRAPE	1
CENTIPEDEGRASS	12	GRAPE(UNKNOWN TYPE)	1
CHERRY	4	GRAPE, CONCORD	1
		GRAPE, MUSCADINE	4
		GRASS, BENT	5
		GRASS, BERMUDA	28
		GRASS, BERMUDA(HYBRID)	3

GRASS, BLUR	1	MAPLE, JAPANESE	4
GRASS, CENTIPEDE	5	MAPLE, RED	4
GRASS, DALLIS	1	MAPLE, SILVER	1
GRASS, FESCUE	2	MAPLE, JAPANESE	7
GRASS, FESCUE(TURF)	2	MAPLE, RED	4
GRASS, ST AUGUSTINE	35	MAPLE, SUGAR	1
GRASS, ZOYSIA	35	MARIGOLD	1
GRASSES	8	MELON, A	1
HAKONE GRASS	1	MEXICAN FALSE HEATHER	1
HAWTHORN	3	MISC PLANTS	2
HAWTHORN(ORNAMENTAL)	2	MORNING GLORY	4
HEMLOCK	2	MULBERRY	2
HEUCHERA	1	MULCH	4
HIBISCUS	6	MULLEIN	1
HICKORY	1	MUM	3
HOLLY	19	MUSHROOM	3
HOLLY, COMPACT	1	MUSTARD, LEAF	1
HOLLY, BOXWOOD,			
JUNIPER	1	NANDINA	3
HOLLY, BURFORD	3	OAK	13
HOLLY, HETZI	1	OAK(ORNAMENTAL)	1
HOLLY JAPANESE	1	OAK, PIN	3
HOLLY YAUPON	2	OAK,SAWTOOTH	1
HOLLYHOCK	1	OAK,WATER	2
HOPS	1	OAK,WILLOW	1
HOSTA	991	OAK,LIVE	3
HYDRAGENA	4	OAK,PIN	3
IDENTIFY	1	OAK,RED	2
IMPATIENS	4	OAK,SAWTOOTH	2
INDIAN HAWTHORN	1	OAK,WATER	1
IVY	4	OAK,WHITE	1
JAPANESE CLEYERA	4	OAK,WILLOW	3
JAPANESE HOLLY	1	OAKS,RED	1
JAPANESE MAPLE	1	OAKS,WHITE	1
JAPANESE SNOWBALL	2	OKRA	8
JASMINE	1	OREGAON GRAPE	1
JOB'S TEARS	2	ORNAMENTALS, FOREST	1
JUNIPER	1	ORNAMENTALS, FOREST	7
JUNIPER (E RED CEDAR)	18	PALM	1
KALE	1	PALMS	1
KUDZU	1	PANSIES	3
LANTANA	107	PANSY, A	1
LAUREL	1	PEA,GARDEN	1
LETTUCE	2	PEA,GARDEN	4
LILAC COMMON	1	PEACH	15
LILY	2	PEAR	10
LINDEN	1	PEAR(ORNAMENTAL)	4
LIRIOPE(MONKEY GRASS)	3	PEAR,BRADOFRD	18
LITTLELEAF MOUNTAIN	1	PEAR,ORNAMENTAL	1
LOROPETALUM	2	PEAR, BRADFORD	6
MAGNOLIA	13	PEAR, CALLERY	1
MAGNOLIA,SOUTHERN	2	PECAN	11
MAPLE	11	PECANS	15
MAPLE ORNAMENTAL	1	PENTAS	1
		PEONY	3

PEPPER	8	SORGHUM	1
PEPPER VINCE	1	SORGHUM, GRAIN(MILO)	15
PEPPER BELL	5	SOUTHERN PEAS,	
PEPPER GREEN	1	COWPEAS	1
PAPPER JALAPENO	4	SOUTHERN PEAS;	
PEPPER BELL	4	GENERAL	1
PERIWINKLE	2	SOYBEAN	708
PERSIMMON	1	SPATHIPHYLLUM	1
PERSIMMON JAPANESE	1	SPIREA	3
PETUNIA	7	SPRUCE	6
PETUNIA GARDEN	2	SPRUCE(ORNAMENTAL)	2
PETUNIAS	1	SPRUCE(NORWAY)	1
PHILODENDRON	2	SPRUCE BLUE	6
PHLOX	2	SPRUCE SWARD ALBERTA	3
PHOTINIA	3	SPRUCE NORWAY	1
PHOTINIA RED TIP	3	SQUASH	8
PIERIS	1	SQUASH,STRAIGHTNECK	1
PINE	4	SQUASH,ZUCCHINI	1
PINE, AUSTRIAN	1	SQUASH BUTTERNUT	1
PINE, LOBLOLLY	1	SQUASH YELLOW	3
PINE, LODGEPOLE	1	ST AUGISITNE GRASS	1
PINE, NORFORK ISLAND	1	ST AUGISITNE GRASS	16
PINE, SHORTLEAF	1	ST AUGISITNE GRASS	1
PINE, VIRGINIA	1	STRAWBERRY	13
PLUM	5	SUMAC	2
PLUM, PURPLELEAF	2	SUNFLOWER	1
POINSETTA	1	SWEET BAY MAGNOLIA	1
POINSETTA	3	SWEET POTATO	2
POPLAR	1	SWEETGUM	1
POTATO	6	SWEETPOTATO	3
POTHOS	1	SYCAMORE	1
POTTING SOIL	1	THRIFT	1
PRIMROSE	1	TIMOTHY	1
PRIVET	2	TOMATO	172
PRIVET,JAPANESE	1	TREE	23
PRUNUS	1	TULIP TREE	2
PUMPKIN	11	TULIP TREE (TULIP Poplar)	1
RAIN TREE	1	TURFGRASS	2
RAPE	1	TURNIP	6
RASPBERRY	2	UNIDENTIFIED	7
RED BUCKEYE	1	UNKNOWN WEEDS	1
RED-TIP PHOTINIA	2	UNKNOWN; NO SITE	1
REDBUD	4	VIBURNUM	1
RHODODENDRON	1	VINCA	5
RICE	60	VINE OR GRAPE	1
ROSE	26	VIRGINIA WILLOW	1
ROSE OF SHARON	1	WALNUT	1
ROSE OF SHARON	2	WALNUT, BLACK	1
ROSE TEA	2	WATERMELON	37
RYEGRASS	1	WAX MYRTLE	2
SAGE	1	WEED(PARSLEY PIERT)	1
SEDUM	5	WEED ID REQUEST	1
SHRUB	10	WEeping WILLOW A	1
		WEIGELA	2
		WHEAT	60
		WHEAT COMMON	1

WILLOW	8
WILLOW,WEEPING	1
WILLOW,PUSSY	1
YAUPON	3
YEW	11
YEW JAPANESE	1
YEW A	1
YUCCA	1
ZINNIA	3
ZYGOCACTUS	4
ZZ PLANT	2
TOTAL	3531