

THE STORM OF '93

Roy A. Larson

Department of Horticultural Science, North Carolina State University

Each of us usually remembers forever some phenomenon of nature which affected our lives in some physically frightening or economically catastrophic way. For some people on the East coast it might have been Hurricane Hazel which created so much havoc. People of a more recent vintage might consider Hurricane Hugo or Hurricane Andrew to be their brush with disaster. It might be a flood, tornado, forest fire, searing heat or paralyzing cold. For some people it could be a blizzard or at least a severe snowstorm accompanied by plunging temperatures. It is the last type of nature's power which I can recall most vividly. It was Armistice Day and the weather that day in the North Central states was what was referred to as an "Indian summer" day. We had had a killing frost earlier in the fall and then unseasonably warm weather arrived. Everyone went off to school, work or duck hunting dressed for early summer, not for a normal November 11th. Suddenly it began to rain which soon turned to sleet which soon turned to a very heavy snow. The temperature went from 70°F to 0°F in less than four hours. Traffic became paralyzed and people, dismissed from work, were not adequately dressed for walking. It wasn't comfort they were seeking, but survival. I was in the fourth grade and when school was dismissed in mid-morning we headed for our homes, one to two miles away. The slippery roads made walking difficult and dangerous and I can still remember a man advising me to be careful as I crawled on my knees past downed power lines. None of us were electrocuted but many people died because of the frigid temperature and inadequate clothing. Nature had lulled us to sleep by giving us those pleasant autumn days and then nature woke us up by taking them away and replacing them with winter.

Many flower growers in the eastern part of the country will remember forever the storm of '93 when a cold rain turned to sleet and then to heavy snow. Greenhouses filled with plants for Easter sales were in danger of collapsing and powerful winds increased the chances for disaster. I was on a 46-passenger bus going from Myrtle Beach to Wilmington on that blustery March 13th morning and the 80 m.p.h. winds made me think I was in a row boat on a choppy lake. A tree fell just behind us as we went down a Wilmington street and lightning struck a transformer as we drove by. Other sights I witnessed several times were plastic being torn off greenhouses and shingles off the roofs of homes.

We didn't know what to expect when we reached Raleigh, as we doubted that we could have escaped the violence of the storm. We knew what was happening on the coast and we had heard about the powerful winds and abundance of snow in the western part of the state. The Raleigh area did escape severe damage but we kept hearing alarming news from other areas.

I wanted to find out how growers in the state had fared in the storm, not because I was nosy but because I was concerned. I didn't want to bother growers at such a hectic time so I had my secretary, Karen Sindors, contact all the County Extension Centers by electronic mail to see if the county agents had some assessments of the storm. In several instances their reports were delayed because roads were blocked with snow drifts and they couldn't get out to survey the damage.

This report on the effects of the storm of '93 could have covered an area extending from Miami to Maine or the Atlantic coast to the Mississippi River but the remarks will be confined to North Carolina. I will not reveal the identity of any greenhouse firm but the county agents who

responded to my requests are shown in parentheses for each county.

Alleghany (Jerry Washington). Four greenhouses were damaged. Two of them were bedding plant houses and the two other houses were used for lettuce production. The lettuce crop was lost.

Buncombe (Alison Arnold). Damage done by the storm in this county really was sporadic. One greenhouse firm reportedly sustained over half a million dollars worth of crop and structural damage, while another greenhouse firm completely escaped any losses. Stand-by generators which kept working played a major role in determining crop survival, as power was out in many places and the outside temperature was not much above 0°F.

Burke (Reagan Ammons). At least three greenhouses were damaged at an estimated loss of over \$50,000.

Cabarrus (David Goforth). They had two inches of snow but the wind seldom exceeded 30 m.p.h. and not much damage was reported.

Chowan (Mike Williams). One structure, about 10,000 ft² in area, collapsed. Bedding plants were moved to another house, hopefully in time to save the crop.

Columbus (Haywood McKoy). A total of \$90,000 in crop and structural damage was estimated, and \$80,000 of the damage was at one establishment.

Forsyth (Toby Bost). All greenhouses remained intact and there were no reported power outages.

Henderson (Glen Davis). Damages in this county probably were worse than in all the other counties combined. Greenhouse collapse, heating system disruptions, power failures and very cold temperatures combined to cause millions of dollars worth of destruction. The complete loss of African violet plants, from the propagation areas to the finishing benches, will not be easily overcome. An excellent Easter lily crop (over 100,000 plants) perished. It has been estimated that as much as 11 acres of production area was

affected and as many as five acres of structure were damaged.

Hyde (Mac Gibbs). Some buildings and plants were damaged but no estimate of financial loss was given.

Johnston (Allan C. Thornton). Some plastic coverings were blown away but crops were moved and saved.

Lee (David Dycus). No damage was reported.

Madison (Ross Young). Losses of \$5,000 to \$10,000 were reported, caused either by collapsed greenhouses or power outages.

McDowell (J.R. Mabe). It was estimated that crop losses amounted to \$534,000 while equipment and structural damage was \$120,000.

Moore (Al Cooke). Winds and snow were not bad and damage was avoided.

New Hanover (David Barkley). Many greenhouses lost plastic coverings during the high winds in the storm. David said he learned an important lesson as he tried to help one owner try to re-cover a greenhouse while the wind was still blowing--let go of the plastic before your feet leave the ground.....

Pasquotank (Tom Campbell). In one instance a windbreak of Leyland Cypress trees blocked the wind so greenhouse damage did not exceed \$500. Emergency generators had to run all night, until power was restored. A vegetable grower lost a Quonset house used for vegetable crop propagation and the seedlings were moved to a production house. A \$1,200 loss in structure was estimated. Another vegetable grower lost \$2,000 to \$3,000 when the plastic blew off and the vegetable transplants were frozen.

Rockingham (Judge Pierce). No damage was reported.

Rutherford (Jan McGuinn). Several garden centers lost greenhouses. Downed telephone lines and snow-blocked roads made communication with growers difficult.

Stokes (Jeffrey Boyles). Tobacco houses went down but no collapsed greenhouses filled with floricultural crops were reported.

Warren (Phil McMillan). No damage was reported.

Watauga (Gene Brewer). One greenhouse was destroyed (\$10,000 damage estimated), plus the crop inside.

Yancey (Johnny Hensley). One 1,200 ft² structure, used for overwintering of perennials, was lost. Crop loss had not yet been determined.

It is obvious from these reports that the storm of '93 did cause damage in North Carolina from the seashore to the mountains, with some relief in between. Stand-by generators paid off in one night for some growers, while other growers had to watch their plants freeze.

We may have become contemptuous of greenhouse snow loads in recent years because we haven't had major storms to remind us that ridge and furrow or wide-span greenhouses are vulnerable when snow cannot be melted or removed in some other way. We increase the prospects for disaster when we hook hanging baskets to the greenhouse supports. Eighty mile per hour winds and one to two feet of heavy snow are hard to combat but there is an escape mechanism for power outages. One of the last pieces of equipment some greenhouse owners buy is a dependable emergency generator. Some wait so long that they never do get to buy one.

(I appreciate the efforts of the county agents who responded to my request for information.)