Fruit and vegetable crops grown in the general area extending from Wisconsin and Michigan, east to New York and southeast to North Carolina suffered varying degrees of damage from the freezes of May 9-11, 1966, according to the Crop Reporting Board of the United States Department of Agriculture. Temperatures ranged from lows of 16 in important fruit areas of Michigan the morning of May 9 to 20 in the mountain areas of North Carolina the morning of May 11.

This preliminary appraisal of freeze damage is presented as the average effect for the State or area concerned. As in most freezes of this kind, some growers might have complete failures, while others in more favored locations might escape unharmed. A final appraisal of the damage will not be possible for some time.

In Michigan, temperatures dropped to 16 degrees in some fruit areas but generally ranged from 19 to 24 degrees. Ohio lows ranged from 16 degrees in the north to 25 degrees in the southern part of the State. Heavy damage to fruit crops occurred in both States. In New York and Pennsylvania, temperatures did not generally fall below 27 degrees. Fruit crops were damaged but losses were not considered heavy. Some of the damage had occurred during earlier freezes. New Jersey, Delaware, Maryland, Virginia, and West Virginia had temperatures generally in the upper 20's. Damage in these States was spotty. Although the full effects cannot be determined, the overall loss is not considered severe. Some individual orchards were hard hit. At higher elevations in western North Carolina temperatures were as low as 20 degrees and most fruit was destroyed, but damage was not severe elsewhere in the State. Kentucky and Tennessee had varying degrees of damage. Freezing temperatures did not extend into South Carolina fruit and vegetable areas.

APPLES: Apple development was not far advanced in Michigan, but the crop was still damaged, particularly in the southern part of the State. Damage to the Indiana apple crop was scattered--light in the southern part of the State but heavy for early varieties in northern Indiana. Later varieties were not so severely damaged. Wisconsin apples were damaged, but in general the damage is thought to have been limited to thinning of the set of fruit. In the southern part of the State some orchards were already in bloom and the center buds were damaged, but the side buds may have escaped. Apples were in full bloom in northern Ohio and thus vulnerable to severe damage although damage was not as heavy in the northeast. In southern Ohio the crop was past full bloom and damage was probably not so heavy. Although the full extent of damage to Pennsylvania's apples is not known, preliminary examination indicates no severe losses. New York apple development had been held back by cold weather in recent weeks and the crop was not too vulnerable. Damage occurred in scattered areas but is not considered serious. Apple prospects were reduced in New Jersey, Maryland, West Virginia, and Virginia. In Virginia, heaviest damage occurred in the Shenandoah Valley and southwest Virginia. Bloom has been unusually prolonged. In the Shenandoah Valley and the Upper Piedmont apples were just past full bloom although in the Roanoke area and south most apples are just past petal fall.
In New Jersey, late varieties of apples were in full bloom in the central and southern areas, heavy loss of blossoms occurred. Blossoms on early varieties in northern Jersey were damaged. Overall loss to the apple crop cannot be determined, but some individual orchards were hard hit. In Maryland, apples were mostly in full bloom. Damage was spotty within and between orchards.

In North Carolina, apples in the higher elevation of Haywood County and Mt. Mitchell were practically wiped out, but losses were light in the Hendersonville and Wilkes-Alexander areas.

Tennessee had heavy losses in the northeast, but in Kentucky damage was little more than a thinning action.

PEACHES: Most severe damage occurred in Michigan, Ohio, Northern Indiana and West Virginia. Ohio's crop is expected to be a near total loss except in the northeast and a few favored locations in other areas. In Michigan and northern Indiana peaches suffered very severe damage as temperatures stayed below freezing levels for 10 hours or more. Full extent of losses cannot be accurately appraised at this time. In West Virginia, heaviest losses occurred at higher elevations. Fruit set occurred 10 days to 2 weeks ago; at lower elevations, peaches were thinned but some fruit withstood the cold.

In New York, cold weather during recent weeks had delayed bloom of peaches and the crop was not too vulnerable to the freeze. Crop prospects were lowered but losses are not considered serious. New Jersey's trees had passed full bloom and peaches were in the shuck stage. Overall damage was variable, but some individual orchards were hard hit. In Pennsylvania, temperatures were just below freezing in the major fruit areas. Peaches were in full bloom. Restricted insect-pollination activity is of more immediate concern than the frost and freeze. Damage in Maryland was spotted, with heaviest losses in the north central and western areas. In Delaware and on the eastern shore of Maryland, damage was relatively light.

Virginia's peaches were past the bloom stage and losses are not expected to be severe. The freeze damage is probably limited to thinning of a heavily set crop. In the Sandhills area of North Carolina peach losses are expected to be light and limited to lower elevations where cold settled.

CHERRIES: Prospects have been reduced sharply in Michigan for both sour and sweet cherries as a result of the freezes. On the night of May 9, temperatures were below freezing for 10 or more hours in most fruit areas. The crops ranged from full bloom in the southwest to bud swell in the northern areas. Full assessment of damage cannot be made for several weeks. Cherries were in the tight bud stage in Wisconsin and the extent of damage is not known. However, in Wisconsin's cherry area, frosts up until May 20 are not rare. There was some damage to sweet and sour
cherries in western New York, but most of it occurred during earlier freezes. The overall damage is not expected to be extensive. There was serious damage to the sour cherry crop in Ohio, but full assessment cannot be made for some time. The cold weather caused some damage to cherries in Pennsylvania and also restricted bee activity. There is presently more concern in Pennsylvania over poor pollination because of restricted insect activity than any damage the freeze may have caused.

**MISCELLANEOUS FRUITS:** Grapes were not as vulnerable as most other fruits, since bloom was 2 to 4 weeks away when the freezes hit. Damage is expected to be light. New Jersey cranberry bogs were still flooded; therefore, were not damaged. Early varieties of blueberries in New Jersey, such as Weymouth, were in full bloom and suffered the most damage. Damage to later varieties is uncertain.

**STRAWBERRIES:** Freeze damage to strawberries was most severe and widespread in Ohio. More moderate and less widespread damage occurred in Michigan, Kentucky, and Tennessee, although some localities received severe loss. In Wisconsin and Indiana, damage was spotty, ranging from light to moderate. Minor localized damage occurred in New Jersey, Maryland, Virginia, and North Carolina.

**POTATOES:** Earliest planted potatoes in Ohio and Tennessee were frozen to ground level. Most of the acreage is expected to recover. In New Jersey, Virginia, and North Carolina, damage was confined mostly to leaf burn.

**VEGETABLES:** The overall damage to vegetables is not expected to be great, since the bulk of the acreage in States affected by the freeze had not been planted or set. Damage for some localized areas was heavy. The early planted acreage of tomatoes in Ohio and Indiana suffered extensive damage, but much of the lost acreage is expected to be replanted. Considerable replanting of tomatoes will be necessary in New Jersey, where about half the crop had been set out. In Pennsylvania planting was just getting underway.

Asparagus harvest was curtailed in Michigan and New Jersey. Some damage to snap beans, cucumbers, and peppers was reported in North Carolina.

Losses to vegetables for processing are expected to be light. Some early planted fields of tomatoes in Ohio and New Jersey were frozen. Peas are expected to recover, but development and maturity dates will be affected.