From Page 81, Chapter 9: Managing Cold Events
A Grower's Guide to Production, Economics and Marketing – 2015 Strawberry Plasticulture (available through NC Strawberry Assn)

The strawberry plant's crown tissues are susceptible to cold injury during the winter months if minimum temperatures drop below 10 degrees F and into single digits, as they did in much of North Carolina in early January 2014 and 2015. Row covers can provide excellent cold protection against such extreme cold events. A longitudinal section of a healthy, noninjured Chandler crown is shown in Fig. 9-7 (far left)—this plant was exposed to a 7 degrees F arctic clipper on January 6, 2014 (Burlington, NC), and it had row cover protection (1.2 oz). In contrast, a dissected crown of a Chandler plant exposed to a wind-borne freeze event in early January 2015 without row cover protection is shown in Fig. 9-7 (center).

A B C

Fig. 9-7. Longitudinal cuts through Chandler plant crowns : A.This crown had row cover protection during a 7°F arctic clipper in early January. B. This crown did not have row cover protection. C. This crown was injured underneath a row cover because of poor plant hardening in the fall (this is nonrecoverable damage). Note the much darker appearance to the central pith tissue in the plant on far right. This plant also exhibits damage to the narrow *cambium layer* outside the pith.

Row covers ARE detrimental to plant hardening in the late fall. Regardless of whether strawberries are being grown in the plasticulture system in a mild winter region such as the NC coastal plain, Sandhills, and piedmont (Fig. 9-5), or a colder plasticulture region like western North Carolina (Fig. 9-7), one of the biggest mistakes a grower can make is leaving a row cover "on" in the late fall when the plant actually needs to be exposed to multiple nights of colder temperatures to become "hardened" for the colder winter season.