표 2-11. '홍로' 사과의 규격 및 PE 필름 처리에 따른 저장 중 경도의 변화(2014).

|                | PE필름              | 11 1 7 12 6         |                    | 도 (N/ $\phi$ 11mi  | m)                | <u> </u>            |  |  |  |
|----------------|-------------------|---------------------|--------------------|--------------------|-------------------|---------------------|--|--|--|
| 과실크기           | 천공수               |                     |                    |                    |                   |                     |  |  |  |
| (g)            | (구) <sup>z</sup>  | 0                   | 20                 | 40                 | 60                | 80                  |  |  |  |
| 2000           | · • ·             | •                   |                    |                    |                   |                     |  |  |  |
| 200이하          | 무처리<br>3000       | 71.2 a <sup>y</sup> | 72.0 ab<br>70.6 ab | 65.4 ab<br>68.7 ab | 53.1 c<br>52.2 c  | 68.1 a<br>63.4 ab   |  |  |  |
|                | 3000<br>8         |                     | 62.3 bc            | 59.7 ab            | 55.7 b            | 59.3 bcd            |  |  |  |
|                | 16                |                     | 66.9 abc           | 63.7 ab            | 58.5 a            | 58.8 bcd            |  |  |  |
|                | 32                |                     | 75.0 a             | 60.7 ab            | 61.6 a            | 63.0 abc            |  |  |  |
| 201~240        | 무처리               | 72.5 a              | 63.9 bc            | 57.3 ab            | 56.9 b            | 63.5 ab             |  |  |  |
| _01 _10        | 3000              |                     | 63.4 bc            | 58.1 ab            | 56.9 b            | 61.1 bcd            |  |  |  |
|                | 8                 |                     | 65.2 abc           | 58.2 ab            | 55.3 b            | 59.9 bcd            |  |  |  |
|                | 16                |                     | 62.6 bc            | 56.3 ab            | 58.4 ab           | 57.2 d              |  |  |  |
|                | 32                |                     | 56.6 c             | 56.7 ab            | 54.8 bc           | 57.0 d              |  |  |  |
| $241 \sim 270$ | 무처리               | 70.9 a              | 59.6 bc            | 51.3 ab            | 54.2 bc           | 58.7 bcd            |  |  |  |
|                | 3000              |                     | 54.4 c             | 72.7 a             | 53.7 bc           | 58.7 bcd            |  |  |  |
|                | 8                 |                     | 56.3 c             | 52.6 b             | 56.4 b            | 60.4 bcd            |  |  |  |
|                | 16<br>32          |                     | 56.1 c             | 52.7 b             | 56.3 b            | 59.2 bcd            |  |  |  |
| 271~300        | 3 <u>/</u><br>무처리 | 71.2 a              | 59.3 bc<br>58.0 bc | 52.7 b<br>53.9 ab  | 55.6 b<br>53.5 bc | 57.6 cd<br>60.3 bcd |  |  |  |
| ∠11 - 300      | 3000              | 11.4 a              | 58.8 bc            | 53.9 ab<br>50.7 b  | 52.2 c            | 58.1 bcd            |  |  |  |
|                | 8                 |                     | 77.8 a             | 53.1 b             | 55.3 b            | 59.5 bcd            |  |  |  |
|                | 16                |                     | 59.5 bc            | 52.1 b             | 56.5 b            | 60.5 bcd            |  |  |  |
|                | 32                |                     | 55.4 c             | 55.1 ab            | 50.1 c            | 61.6 bcd            |  |  |  |

<sup>\*</sup>PE필름 천공수; 3000: ∮0.59mm; 8, 16, 32: ∮5.9mm

표 2-12. '홍로' 사과의 규격 및 PE 필름 처리에 따른 저장 중 경도의 변화(2015).

| <br>과실크기       | PE필름                          | 경도 (N/ $\phi$ 11mm)  |        |         |        |        |        |         |  |  |
|----------------|-------------------------------|----------------------|--------|---------|--------|--------|--------|---------|--|--|
|                | 천공수                           | 저장기간 (저온저장일수+상온유통일수) |        |         |        |        |        |         |  |  |
| (g)            | ( <del>7</del> ) <sup>z</sup> | 0                    | 20     | 40      | 60     | 60+7   | 80     | 80+7    |  |  |
| 200이하          | 무처리                           | 64.7 a <sup>y</sup>  | 64.9 a | 63.4 ab | 64.5 a | 58.4 a | 60.0 a | 61.9 a  |  |  |
|                | 3000                          |                      | 64.8 a | 63.3 ab | 60.9 a | 57.7 a | 60.0 a | 60.2 ab |  |  |
|                | 8                             |                      | 65.0 a | 63.6 a  | 59.5 a | 55.6 a | 58.2 a | 60.2 ab |  |  |
|                | 16                            |                      | 65.2 a | 62.7 ab | 60.2 a | 56.7 a | 58.9 a | 59.7 ab |  |  |
|                | 32                            |                      | 64.6 a | 63.0 ab | 59.6 a | 56.3 a | 59.6 a | 60.1 ab |  |  |
| $201 \sim 240$ | 무처리                           | 64.0 a               | 63.9 a | 59.4 ab | 60.4 a | 56.0 a | 58.3 a | 57.8 ab |  |  |
|                | 3000                          |                      | 64.4 a | 60.1 ab | 61.2 a | 55.6 a | 59.1 a | 59.3 ab |  |  |
|                | 8                             |                      | 64.3 a | 59.2 ab | 58.5 a | 58.9 a | 60.9 a | 56.7 ab |  |  |
|                | 16                            |                      | 64.9 a | 59.7 ab | 61.8 a | 57.7 a | 61.6 a | 58.8 ab |  |  |
|                | 32                            |                      | 64.5 a | 61.2 ab | 60.0 a | 57.1 a | 60.3 a | 62.0 a  |  |  |
| $241 \sim 270$ | 무처리                           | 60.1 a               | 60.5 a | 59.1 ab | 58.7 a | 57.8 a | 58.9 a | 59.5 ab |  |  |
|                | 3000                          |                      | 61.2 a | 61.5 ab | 60.8 a | 57.6 a | 59.4 a | 59.5 ab |  |  |
|                | 8                             |                      | 60.1 a | 58.2 b  | 60.7 a | 56.7 a | 58.1 a | 55.2 ab |  |  |
|                | 16                            |                      | 59.5 a | 62.0 ab | 60.9 a | 56.3 a | 55.8 a | 56.8 ab |  |  |
|                | 32                            |                      | 60.7 a | 62.1 ab | 59.7 a | 58.0 a | 61.3 a | 54.7 ab |  |  |
| $271 \sim 300$ | 무처리                           | 61.1 a               | 60.1 a | 59.3 ab | 61.4 a | 59.5 a | 60.4 a | 53.6 ab |  |  |
|                | 3000                          |                      | 60.7 a | 61.7 ab | 60.7 a | 56.5 a | 61.7 a | 57.4 ab |  |  |
|                | 8                             |                      | 59.6 a | 59.6 ab | 61.0 a | 57.2 a | 58.3 a | 55.6 ab |  |  |
|                | 16                            |                      | 61.9 a | 59.0 ab | 60.5 a | 55.5 a | 61.6 a | 53.1 b  |  |  |
|                | 32                            |                      | 62.5 a | 58.2 b  | 58.3 a | 56.5 a | 57.4 a | 56.9 ab |  |  |

<sup>z</sup>PE필름 천공수; 3000: ∮0.59mm; 8, 16, 32: ∮5.9mm

y던컨다중검정, p = 0.05.

 $<sup>^{</sup>y}$ 던컨다중검정, p = 0.05.