An Investigation of the Causes of Sugar-apple Leaf Scorch

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Summary

The objective of this investigation was to find out if the leaf scorch of sugar apple (*Annona squamosa* L.) c.v. Large Scale was damaged by salt spray. The necrotic areas first appear at the leaf tips and upper margins on old and young leaves, as the condition of the plants worsens, the scorch spreads towards the midrib between the leaf veins and gradually progresses in inverted V shape and eventually leaves shed.

The first sugar-apple orchard located at Tunghe village on which leaf scorch was detectable was 200 meters from the Pacific Ocean and the second sugar-apple orchard located at Peinan village on which leaf scorch was not detectable was 13 kilometers from the Pacific Ocean. The leaves and the fruits of the two orchards were sampled for comparing the difference in Cl and Na contents.

On fresh weight basis, the skin Cl and Na of summer fruit at Tunghe were 76.6 and 44.6 mg/100g and at Peinan were 53.7 and 28.0 mg/100g, the former was significantly higher than the latter.On the basis of fresh weight for winter fruit, the skin and the pulp Cl concentrations of bagged fruit at Tunghe were 59.0 and 61.5 mg/100g, but without bagged fruit 78.1 and 56.8 mg/100g, while bagged fruit at Peinan 54.0 and 32.5 mg/100g ; the skin and the pulp Na concentration were 28.5 and 37.3, 29.3 and 35.8, 7.8 and 8.4 mg/100g, respectively, it indicated that the skin and the pulp Cl and Na concentrations at Tunghe were remarkably higher than Peinan. The mean leaf Cl contents from Oct. Nov. Dec. Jan. and Feb. at Tunghe were 6,740、11,265、8,946、9,563 and 10,028 ppm, but at Peinan 2,845、4,416、4,241、4,876and 5,547 ppm, respectively; the mean leaf Na contents from Nov. Dec. Jan. and Feb. at Tunghe were 1,988、1,038、

988and 1,099 ppm, while at Peinan 29.5、29.8、362 and 338 ppm, respectively, obviously, the leaf Cl and Na contents of sugar apple at Tunghe were significantly higher than that of sugar apple at Peinan. It suggested that the leaf scorch of sugar apple was caused by excessive amount of Cl and Na from salt spray, and the tentative leaf standards for visible leaf scorch symptoms were Cl over 7,000 ppm and Na over 1,000 ppm.

Key words：Investigation, Sugar apple, Leaf scorch, Salt spray.

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