

Production and utilization of forage oat grown in northern Taiwan ⁽¹⁾

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Abstract

The objectives of the study aimed to investigate the effects of variety, harvest period, and ensiling technology on the forage yield and quality of forage oat (*Avena sativa*), in attempt to increase forage supplement in northern Taiwan. Forage oats were sown in fall and harvested next spring between 2015 ~ 2019. The experimental field was located in Miaoli in northern Taiwan. The results showed that forage oat cv. Swan was the best among the testing varieties. The fresh forage yield of Swan oats ranged from 33.3 to 60.5 mt/ha, and the dry forage yield ranged from 7.7 to 12.4 mt/ha, respectively. Forage production was affected by temperature and rainfall. Silage was made in small plastic pails with screw caps, and the forage quality was determined as 60 days after ensiling in 2016. The silage quality was excellent with Flieg's scores, ranged from 97 to 99 points. Forage oat hay was produced by large dryer in 2017. The forage quality of oat hay was satisfactory: The crude protein, neutral detergent fiber, and acid detergent fiber were 12.61, 54.05, and 30.92%, respectively. The fresh and the dry forage yield of Swan oat planted in Xinwu, Taoyuan in 2019 were 33.3 and 6.4 mt/ha, respectively. Silage round bale was wrapped with the plastic membrane in the field. The silage quality was satisfactory with Flieg's score being 62.8. The results showed that forage oat cv. Swan may be commercial produced in the form of oat hay or silage for dairy cows in northern Taiwan.

Key words: Forage oat, Forage yield, Forage quality, Silage.

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