

以微衛星型遺傳標記評估乳牛基因多樣性

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畜養動物基因多樣性的保護，為第 10 屆生物多樣性締約國會議所訂定愛知目標重要的標題目標之一。本研究以 13 組微衛星型遺傳標記分析 144 頭乳牛之基因多樣性，結果顯示標記之交替基因數目介於 4–12 個，整體標記之平均交替基因數目為 6.5。在 13 種標記的分析中，僅有 3 種標記所得之多態性訊息量小於 0.50。整體分析所得之期望異質度、觀測異質度及多態性訊息量範圍分別為 0.374–0.817、0.400–0.889 及 0.303–0.793，而其平均值則分別為 0.657、0.658 及 0.607。綜而言之，本次研究所得乳牛族群之平均多態性訊息量大於 0.50，此結果顯示族群具有高度之基因多樣性。

關鍵語：乳牛、愛知生物多樣性目標、基因多樣性。

EVALUATION OF GENETIC DIVERSITY OF DAIRY COWS BY MICROSATELLITE MARKERS

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The genetic diversity protection of domesticated animals is one of the important targets of Aichi Biodiversity Targets adopted by the Tenth Meeting of the Conference of the Parties (COP10) to the Convention on Biological Diversity. The genetic diversity was evaluated using 13 microsatellite markers to genotype 144 bovine DNA samples. The results indicated that the polymorphism information content from 3 markers was below 0.5. In this study, the values of expected heterozygosity (H_e), observed heterozygosity (H_o), and polymorphism information content (PIC) ranged from 0.374–0.817, 0.400–0.889, and 0.303–0.793, respectively. Moreover, the average values of H_e , H_o , and PIC were 0.657, 0.658, 0.607, respectively. Based on the results shown above, the cattle population possesses high genetic diversity.

Key Words: Dairy cow, Aichi Biodiversity Targets, Genetic diversity