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In this study, we monitored ingestive behavior of grazing cattle by using a wearable camera, to evaluate usefulness of the tool for continuous identification of plant species ingested. Eight beef cows (mean body weight was 520±104 kg/head) grazed in a pasture-forest combined area (more than 70 plant species existed) in early summer. Two cows were chosen as focal animals, and a wearable camera with microphone (60 mm×94 mm×27 mm, 185 g, HX-A500, Panasonic, Osaka, Japan) was attached onto the front strap of each cow, approximately about 20 cm apart from the right corner of mouth. Ingestive behavior was recorded 90 minutes during a grazing bout in the afternoon. A direct observation of the cows was also carried out simultaneously to compare preciseness of the camera. By the measurements, 27–60 minutes of ingestive behavior were recorded; 213–485 bites were observed and 15 plant species were identified by a direct observation and the camera in combination. Among these data, the wearable camera and direct observation identified 205–469 bites (96.2–96.7% of total bites) and 188–417 bites (86.0–88.3% of total bites), respectively. The wearable camera missed 3.3–3.8% of total bite events mainly due to access from a blind angle to the plants. On the other hand, direct observation missed 11.7–14.0% of total bites, mainly due to rapid movement of the animals (4.9–5.2%) and a small amount of bite size (2.8–3.7%) in addition to the access from a blind angle (3.8–5.4%). These results suggest that the wearable camera is useful to record ingestive behavior of grazing cattle more precisely than direct observation. However, it is necessary to eliminate blind spots to improve the accuracy of recording with the camera.