KANDUNGAN ALKALOID DAN KECERNAAN *IN VITRO* SILASE HIJAUAN OROK-OROK (*Crotalaria juncea* L.*)* PADA UMUR POTONG BERBEDA

INTISARI

Selvira Hasan
21/490956/PPT/01211

Orok-orok (*Crotalaria juncea* L.) merupakan tanaman leguminosa yang berpotensi untuk dikembangkan sebagai pakan ternak ruminansia. Orok-orok memiliki tingkat produksi biomassa yang tinggi dan dapat tumbuh di berbagai jenis tanah. Penelitian ini bertujuan untuk mengetahui kandungan alkaloid dan kecernaan *in vitro* legum orok-orok pada berbagai umur potong dan preservasi. Penelitian dilakukan dengan menggunakan rancangan acak lengkap faktorial 3 x 2. Faktor pertama adalah umur potong (8, 10 dan 12 minggu) dan faktor kedua adalah preservasi pakan yaitu segar (tanpa pengawetan) dan silase (fermentasi). Masing-masing perlakuan diulang sebanyak 3 kali sehingga diperoleh 18 plot. Variabel yang diamati meliputi komposisi kimia, kandungan alkaloid, kecernaan bahan kering (KcBK), kecernaan bahan organik (KcBO), dan kecernaan protein kasar (KcPK) pada orok-orok. Data penelitian dianalisis dengan menggunakan *analysis of variance* (ANOVA) dan apabila terdapat perbedaan rata-rata dilanjutkan dengan *duncan's multiple range test* (DMRT). Hasil analisis variansi menunjukkan umur potong dan preservasi berpengaruh nyata ($P<0,05$) terhadap kandungan bahan organik (BO), protein kasar (PK), kecernaan bahan kering (KcBK), kecernaan bahan organik (KcBO), dan kecernaan protein kasar (KcPK). Preservasi berpengaruh nyata ($P<0,05$) terhadap kandungan alkaloid. Preservasi dalam bentuk silase dapat menurunkan kadar alkaloid ($P<0,05$) dari 536 ppm menjadi 316 ppm. Dari hasil penelitian dapat disimpulkan bahwa semakin tua umur potong orok-orok semakin tinggi kandungan bahan kering dan bahan organik, sebaliknya kandungan protein kasar dan kecernaan *in vitro* semakin rendah. Preservasi dapat meningkatkan kandungan protein kasar dan kecernaan *in vitro* serta menurunkan kandungan kandungan bahan organik dan kandungan alkaloid. Interaksi terbaik terdapat pada silase orok-orok dengan umur pemotongan 8 minggu dengan kandungan protein kasar dan kecernaan *in vitro* tertinggi serta kandungan alkaloid terendah.

Kata kunci: Alkaloid, *Crotalaria juncea*, Kecernaan *in vitro*, Preservasi, Umur potong

ALKALOID CONTENT AND IN VITRO DIGESTIBILITY OF SUNN HEMP SILAGE (*Crotalaria juncea* L.*)* WITH DIFFERENT CUTTING TIMES

ABSTRACT

Selvira Hasan
21/490956/PPT/01211

Sunn hemp (Crotalaria juncea L.) is a leguminose plant that has the potential to be developed as ruminant feed. Sunn hemp has a high level of biomass production and can grow in various types of soil. This study aims to determine the alkaloid content and *in vitro* digestibility of sunn hemp legumes at various cutting times and preservation. The research was carried out using a 3 x 2 factorial completely randomized design. The first factor was cutting time (8, 10 and 12 weeks) and the second factor was preservation, namely fresh (without preservation) and silage (fermented). Each treatment was repeated 3 times to obtain 18 plots. The variables observed included chemical composition, alkaloid content, *in vitro* dry matter digestibility (IVDMD), *in vitro* organic matter digestibility (IVOMD), and *in vitro* crude protein digestibility (IVCPD) of sunn hemp. Research data was analyzed using analysis of variance (ANOVA) and if there were differences in averages, continued with Duncan's multiple range test (DMRT). The results of variance analysis showed that cutting time and preservation had a significant effect (P<0,05) on organic matter (OM) and crude protein (CP) content, *in vitro* dry matter digestibility (IVDMD), *in vitro* organic matter digestibility (IVOMD), and *in vitro* crude protein digestibility. (IVCPD). Preservation had a significant effect (P<0,05) on the alkaloid content. Preservation in the form of silage can reduce alkaloid levels (P<0,05) from 536 ppm to 316 ppm. From the results, it can be concluded that the older the cutting time of sunn hemp, the higher the dry matter content and organic matter content, on the other hand, the crude protein content and *in vitro* digestibility are lower. Preservation can increase crude protein content and *in vitro* digestibility and reduce organic matter content and alkaloid content. The best interaction was found is sunn hemp silage with a cutting time of 8 weeks which has the highest crude protein content, *in vitro* digestibility, and lowest alkaloid content.

Key words: Alkaloid, *Crotalaria juncea*, Cutting time, *In vitro* digestibility, Preservation