AGRICULTURAL SCIENCE

Poster Presentation

Analyzing Quality and Quantity of Binary and

Pure Stands of Low Lignin and Standard Alfalfa.

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Alfalfa is known as “queen of the forages,” due to high yield and high quality. Normally, forage quality decreases with maturity due to lignification of the plant cell walls, but a genetically enhanced alfalfa type, HarvXtra, has been developed which contains about 15% less lignin. This improved quality can translate into higher milk and meat production in cattle. The objective of this project was to determine forage quality, yield and botanical composition of low lignin and standard alfalfa in binary mixtures with cool season grasses. A randomized complete block design study was established at the University of Kentucky north farm with pure stands of low lignin and standard alfalfa in combination with the cool season grasses orchardgrass, meadow fescue and festulolium. The study was arranged in split blocks with half of the area harvested at bud stage and half at the flowering stage. The results showed that low lignin binary mixtures were lower yielding than standard binary mixtures, but pure stands of the two alfalfa types were not significantly different. Standard alfalfa showed higher alfalfa/grass composition in comparison to low lignin alfalfa. Forage quality testing is currently underway at Cornell. In conclusion, although low lignin alfalfa showed comparative yield to standard types in pure stands, it may be less competitive when planted in binary mixtures with cool season grasses.