

PROGRESS REPORT

AUGUST 1978

COLORADO STATE
UNIVERSITY
FORT COLLINS

EXPERIMENT
STATION

14

BROWN MIDRIB OF SORGHUM

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SUMMARY

The genetic character of brown midrib has been transferred into Coes and NB-305F sorghum varieties. These crosses are in their third year of selection at the U.S. Central Great Plains Research Station at Akron.

INTRODUCTION

"Brown midrib" is a genetic character found occasionally in both corn and sorghum and named for its distinguishable appearance. In addition to coloring the midrib, this character also colors the stem, root, tassel, and cob. Researchers at Purdue University in Indiana also discovered that it:

1. Decreased lignin (that undigestible part of the forage) by about 40 percent.
2. Increased in-vitro dry-matter-digestibility (IVDMD) by about 10 percent.
3. Increased daily dry-matter-intake by ruminants.
4. Increased weight-gain and feed-efficiency by ruminants.

Research in Progress

Purdue researchers provided seed of their brown midrib sorghum selections. These were late-maturing varieties, which were crossed with male sterile Coes and NB-305F, a sweet-stalked male sterile hybrid. Brown midrib types were selected from the segregating populations and these are now in the third cycle of purification and selection.

Reason for Research

The improved nutritional aspects of the forage could be of significant value to livestock people in Colorado, especially where considerable forage sorghum could be grazed as winter feed. It also is possible that brown midrib could be incorporated into grain sorghum types, thus providing an improved aftermath for grazing.

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