

The Effects of Parasitism

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The present experiments demonstrate quantitatively some of the ill effects parasitism has on the host. Of interest is the influence which is exerted in the range of infection not readily diagnosed by external inspection (calf 933). This level of infection is easily overlooked, yet most authorities agree that the greatest over-all economic loss results here rather than with severe, fatal infections. The effects of improved livestock breeds and highly efficient feeding programs are undoubtedly being nullified to some extent by this usually undetected level of parasitism.

Tall Fescue—A Progress Report

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other commercial fescue varieties. Two varieties were increased in 1958 and each variety was seeded in sod plots to be compared with orchard grass, bluegrass, and Kentucky 31 fescue for nutritive value to dairy heifers.

The other breeding method is to cross fescue with ryegrass to secure seed. Some of these hybrids have been much better grazed than Kentucky 31 fescue in spaced plant nurseries. These hybrids went into sod plots in the fall of 1959 to be grazed and further evaluated for animal acceptance and agronomic characteristics. Since, by using this method of breeding, hybrids with a large percentage of ryegrass germplasm have been secured, it is possible that the toxicity factor can be bypassed and will not be a problem in using these hybrids as a forage crop.

New Varieties Need Testing

Using animals to test and select new varieties of fescue enables researchers to check animal performance and nutritional value of the grass as well as agronomic qualities. For example, one naturalized variety found growing wild in Kentucky has been grazed consistently better than others in tests. How-

ever, when this variety, G1-43, was increased and seeded in plots to check animal performance in comparison with Kentucky 31 fescue, orchard grass and brome grass, animals did not perform as well on it as on Kentucky 31. Eventually some animals grazing G1-43 fescue showed symptoms of toxicity. Early in 1959 the Kentucky Station showed that an alcoholic extract from this G1-43 fescue forage contained a toxic material. This extract was fed for 40 days to a dairy heifer. She developed characteristic "fescue foot" symptoms and died after 55 days. Neither this variety nor others having more toxicity than Kentucky 31 fescue will be released or recommended by the Kentucky Station.

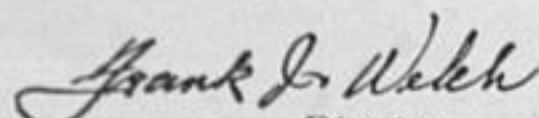
Conclusions

Until such time as improved varieties of fescue or fescue-ryegrass hybrids are released, Kentucky 31 fescue can continue to be useful to livestock and dairy production in Kentucky. In order to be of most use it should be properly managed and used *as a part* of the pasture program with other adapted grasses and legumes rather than used exclusively. It definitely should be mixed with legumes. When fescue stands become sod-bound and choke out legumes, they should be renovated to reintroduce legumes.

There is apparently little question of ill effects under some conditions from grazing pure stands of Kentucky 31 fescue. Some researchers suspect poor blood circulation and nutrient absorption in animals even before lameness or "fescue foot" develops. Research is under way concerning this, and more information is definitely needed. New varieties or strains causing harmful effects or poor performance will not be released or recommended by the Kentucky Agricultural Experiment Station.

There are still thousands of acres in Kentucky that are now primarily in broomsedge and other wild growth because of low soil productivity. These acreages could be much better used if sown to a mixture of legumes and Kentucky 31 fescue or other grasses where the latter are well adapted.

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