higher the turf grass the longer it took for testing apparatus to wear it out.

Simply stated, the health and vigour of a turfgrass stand can be measured in the amount of leaf surface exposed, and raising the height of cut increases the amount of leaf surface. More leaf surface also enables the plant to produce more buds, thus providing better recuperative power.

The following pros and cons of clipping practices are reprinted from an article by Dr. Eliot C. Roberts, former Executive Director of the Lawn Institute, Pleasant Hill, Tennessee.

Increase height of cut:
- Generally more leaf area
- More upright, less compact growth habit — more spindly, less tillering, less dense stand
- Greater root growth
- Less rapid regrowth
- More hardy turf
- Within limits more resistant to weed infestation
- Within limits more resistant to insects and disease
- Less costly to maintain through reduced mowing costs

Decrease height of cut:
- Generally less leaf area
- Within limits, less upright, more compact growth habit, less spindly, more tillering, and more dense stand
- At the extreme: thin non-aggressive open stand, subject to injury
- Less photosynthetic capacity
- Less root growth
- Generally more rapid regrowth
- Less hardy turf

- Less resistance to weeds, insects and disease
- More costly to maintain

In drawing conclusions based upon this inquiry we would like to state the following:

1. The height of cut does not impede the running speed of athletes as supported by the results of the Grether-Gramckow study cited herein.
2. There is a direct relationship between the height of cut and the quality of the natural turf playing surfaces.
3. Mowing heights of cool season turfgrasses with the exception of bentgrass below 1 1/2 inches produces a negative impact on the playing surface. Impact absorption, traction (shear strength), wear tolerance, root growth, and survivability are all negatively affected by excessively low cutting.
4. Mowing management is an important and vital consideration in the proper maintenance of natural turf athletic fields.

Finally, we contend that coaches, athletic directors, parents, administrators, governing bodies and professional consultants must continue to work individually and collectively to improve the condition of playing fields. We must develop and adopt standards that will enable us to produce a safer and more consistent environment for athletic activities. Simply avoiding excessively low cutting would, in itself, contribute significantly toward improved natural turf playing surfaces.

(This is the text of an address presented by Dr. Caton to the Third Sports Turf Information Day, Dec. 4, 1990).