BERT HARTNELL, Saint Mary's University, Halifax, NS
Girth and the Greedy Algorithm

There is some interest in graphs with the characteristic that the greedy algorithm produces a set with a desired property efficiently. For example, well-covered graphs (every maximal independent set of vertices is of one size and, hence, maximum) fall into this category. Many such problems have the rather curious feature that if one knows the structure of trees in the collection, then this characterization is essentially the same even with cycles present as long as they are not too small. For instance, the well-covered graphs of girth 8 or more can be described essentially the same as the well-covered trees. A number of problems of this type will be outlined.