

1. P R E V I E W

Since the reports of many mulching trials have appeared confusing (Havord, 1954), a careful review of the literature was made.

In many cases the cause of the conflicting results was due to an incomplete knowledge of the ecological factors involved. Also very little appeared to be understood of the exact nature and properties of organic matter, whether applied as a mulch or manure. The benefits from mulching were often put down to the addition in terms of nutrients only, and the effects of the physical properties of the soils were disregarded.

In studies on the effects of mulching on soil properties the techniques in estimating these properties that are a function of structure were very varied; standardized methods having only just been considered seriously in recent years, with the result that few comparisons could be drawn.

The effect of these properties as limiting factors to growth have not been fully realized, and the interactions with other ecological factors neglected.

From the review some explanation of the conflicting results of mulching trials become apparent.

A preliminary investigation was conducted to study the physical properties under mulching, to discover to what extent they had been affected by additions of organic residues. An attempt was made to express the physical properties in terms of a structural index. The findings are then discussed in relation to the soil, climate and the cacao crop grown.