

1. In twenty-two male impala, plasma testosterone levels have been compared with weights of seminal vesicles and bulbourethral glands.

2. The results show that single measurements of circulating testosterone are unrelated to weights of accessory sex glands.

3. This finding may be explained if it is assumed that plasma testosterone levels fluctuate more rapidly than the accessory glands can respond.

4. In light of this evidence, it seems necessary to modify the view that plasma concentrations of testosterone bear a direct relationship to its physiologic effect on target organs.