The critical weed competition period of crops is defined and factors affecting it are reviewed. In a trial at Kumasi, Ghana in 1972, seed yields of sesame grown at 222 000 plants/ha ranged from 0.44 t/ha with no weeding to 1.03 t when weeded for 6 weeks after sowing. At 55 000 plants/ha, seed yields were 0.23 t with no weeding and up to 0.87 t when weeding was started at 2 weeks after sowing.