The effect of some horticulture treatments combined with pba,nba as foliar sprays on the growth ,flowering of some different types of carnation

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The experiments were conducted in the ExperimentalFarm of the Faculty of Agriculture at Moshtohor, ZagazigUniversity Benha Sector, during the Years 1982 - 1984. Theexperimental design was in complete randomised block systemwith four replicates.The aim of this study was growing carnations outdoors by practicing some different horticultural treatments(Planting date, Planting distance and Supporting). Also,it was important to study the effects of some cytokininsas PBA and NBA alone or combined with GA3 on the growthand flowering qualities of cut flower carnations.The first experiment involved the propagation critariaand some horticultural practices as planting date - plantingdistance and methods of supporting carnations.The second experiment concerned studying the effectsof spraying different concentrations of two cytokinins namlyPBA and NBA alone or combined with GA3 on the growth andflowering of carnations and the anatomical changes in caranations.The most Important Results are Summerized in the Following:1- Application of lBA at 300 ppm. followed y applicationof PBA at 100 ppm. produced 100 % rooted cuttings.2- lBA gave better results than IAA.3- The results showed that September planting increasedthe number of branches and flowers per plant and improvedflower quality, while June planting gave earlier andlonger period of flowering which is preferable forlocal and forgein market supply of flowers during Octoberand November.4- The results of spacing showed that the density of 30plants/m2 was associated with the highest flower productionper unit area and the lowest number of flowersper plant. Density did not affect flowers quality.5- The density of 15 plants/m2 could be advised for thebest quality of Siro carnation in Egypt especially forthe exportation during winter.6- The highest percentage of dry matter of leaves, stemsand flowers was attained from 7 and 10 plants/m2•13- GA3 alone gave a promising effects on the number ofbranches, flowers and length of internodes and flowerstems of carnation compared to control.14- GA3 at 100 ppm. before or after PBA at 50 ppm. wasthe best combination for both growth and floweringof carnation plants and increased the fresh weights ofleaves and flower stems as well as stem length.15- GA3 at 100 ppm. before PBA at 150 ppm. increased thediameter of carnation flowers.16- GA3 at 100 ppm. before or after NBA at 150 ppm. gavethe tallest flower stems.17- GA3 increased the dry matter percentage but the cominbationsof GA3 with the cytokinin decreased it in theleaves compared to GA3 alone.18- GA3 slightly decreased the carbohydrate percentage.19- GA3 applied before PBA at 100 and 150 increased thecarbohydrate percentages.20- GA applied after PBA at all concentrations decreasedthe carbohydrate percentage.21- The anatomical studies showed that cytokinins as PBAand NBA stimulated cell enlargement especially theepidermal and cor1ex cells of the 4th node and increasedcrystals formation and development in most tissuesFor better production of cut flowers carnationthe base of cuttings are immersed in lBA 300 ppm. +PBA at 100 ppm. for increasing the rooting of cuttings.The plants should be transplanted in June with propermethods of shadding. Fifteen pa1nts/m2 is a suitableplanting distance and the new method of supportingcarnation with wire mesh could be adviced and theplants may be sprayed two times at month intervalswith GA3 at

100 ppm followed with 50 ppm of PBA forthe highest flower yield.