



**The effect of PENTAKEEP-V
on growth and flowering
of chrysanthemum
(*Chrysanthemum x
grandiflorum*
(Ramat.) Kitam.)**

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Plant material:



**2 cultivars planted
in pots:
'Madras' and
'Justyna'**

**1 spray cultivar
'Zembla White'**



Methods

Rooted cutting were planted in greenhouse at the end of June. Growing substrate:

Klasmann TS, pH 5.8, TSS 1,5 g KCl/L.

Chrysanthemums were cultivated under natural day length and without supplemental lighting.

Growth retardant Topflor (flurprimidol) at 0.1% was used for growth control of pot cultivars.

Fertilization

Pentakeep-V was applied in 1 week intervals from 13.07 (side shoots 4-5 cm long) until 25.09 (flower buds visible).

Treatments:

- 1. Control – standard fertilization.**
- 2. Control – 50% increased fertilization**
- 3. Pentakeep-V 0.05% + standard fertilization**
- 4. Pentakeep-V 0.05% + 50% increased fertilization**



Standard fertilization

**Water-soluble fertilizer Symfovita –A
(12.5 N – 2.1 P – 18.5 K – 2.9 Mg –
0.025 B – 0.025 Zn – 0.0005 Co – 0.1
Mn – 0.02 Cu – 0.003 Mo)**

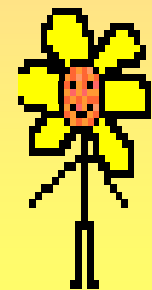
100 ml/pot

at 0.5% from 5 July to 20 July

at 1.0% from 27 July to 31 August

at 1.5% from 7 September to 26

October



Measurements

- Green color of leaves was measured using CCM-200 (Chlorophyll Content Meter, Opti-Sciences).
- Fresh weight of plants, plant height, inflorescence number and diameter were measured at the end of October.
- Visual evaluation was done in the scale: 1 (not accepted plants) – 5 (plants of best quality).
- The concentrations of K, Ca, and Mg were measured using atomic absorption spectrometry, P was determined colorimetrically, N using Kjeldahl method.

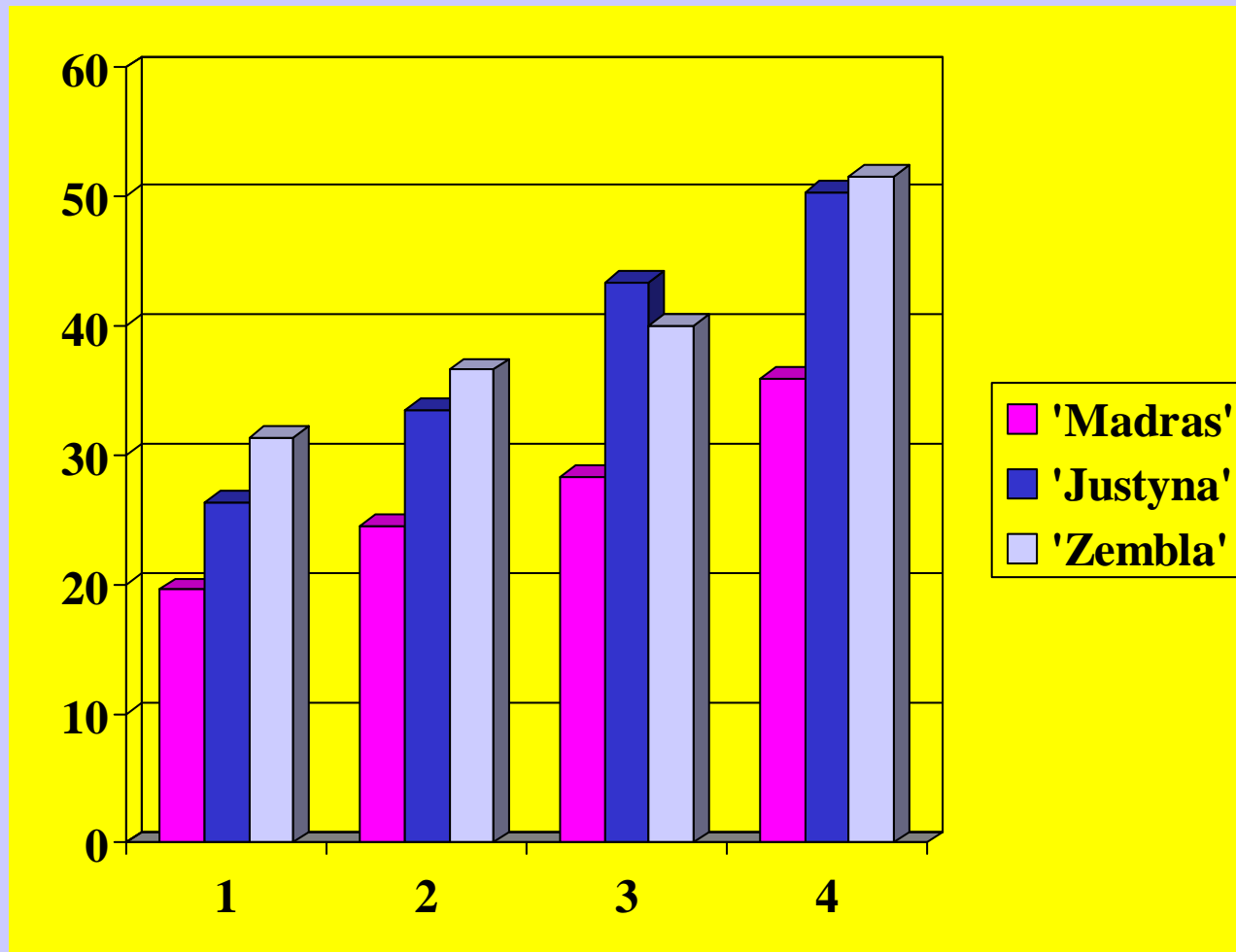


Fig. 1 The effect of Pentakeep-V on green colour of leaves (1. Standard fertilization, 2. 50% increased fertilization, 3. Pentakeep-V+standard fertilization, 4. Pentakeep-V+50% increased fertilization).

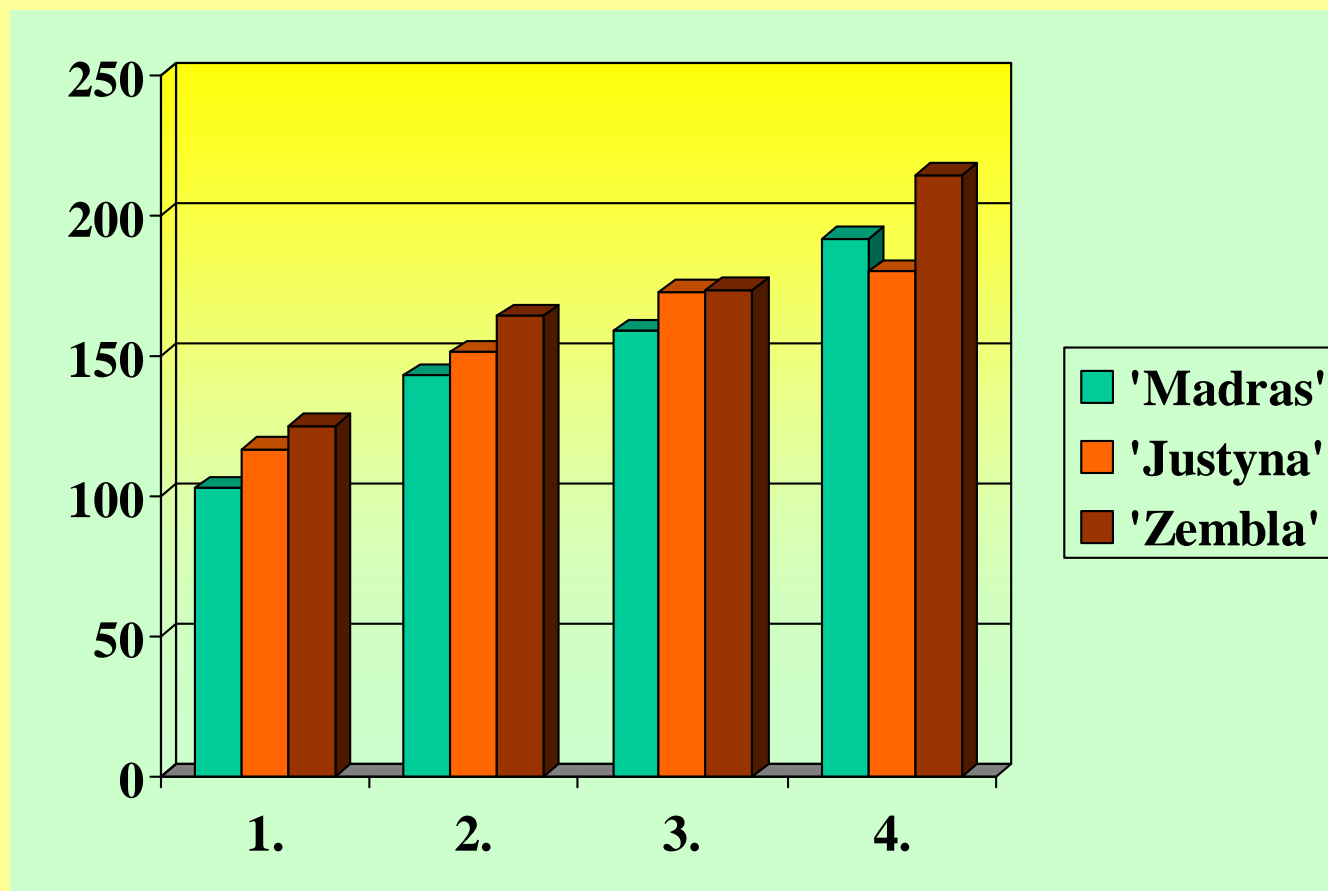


Fig. 2 The effect of Pentakeep-V on fresh weight of chrysanthemum cultivars (g/plant) (1. Standard fertilization, 2. 50% increased fertilization, 3. Pentakeep-V+standard fertilization, 4. Pentakeep-V+50% increased fertilization).

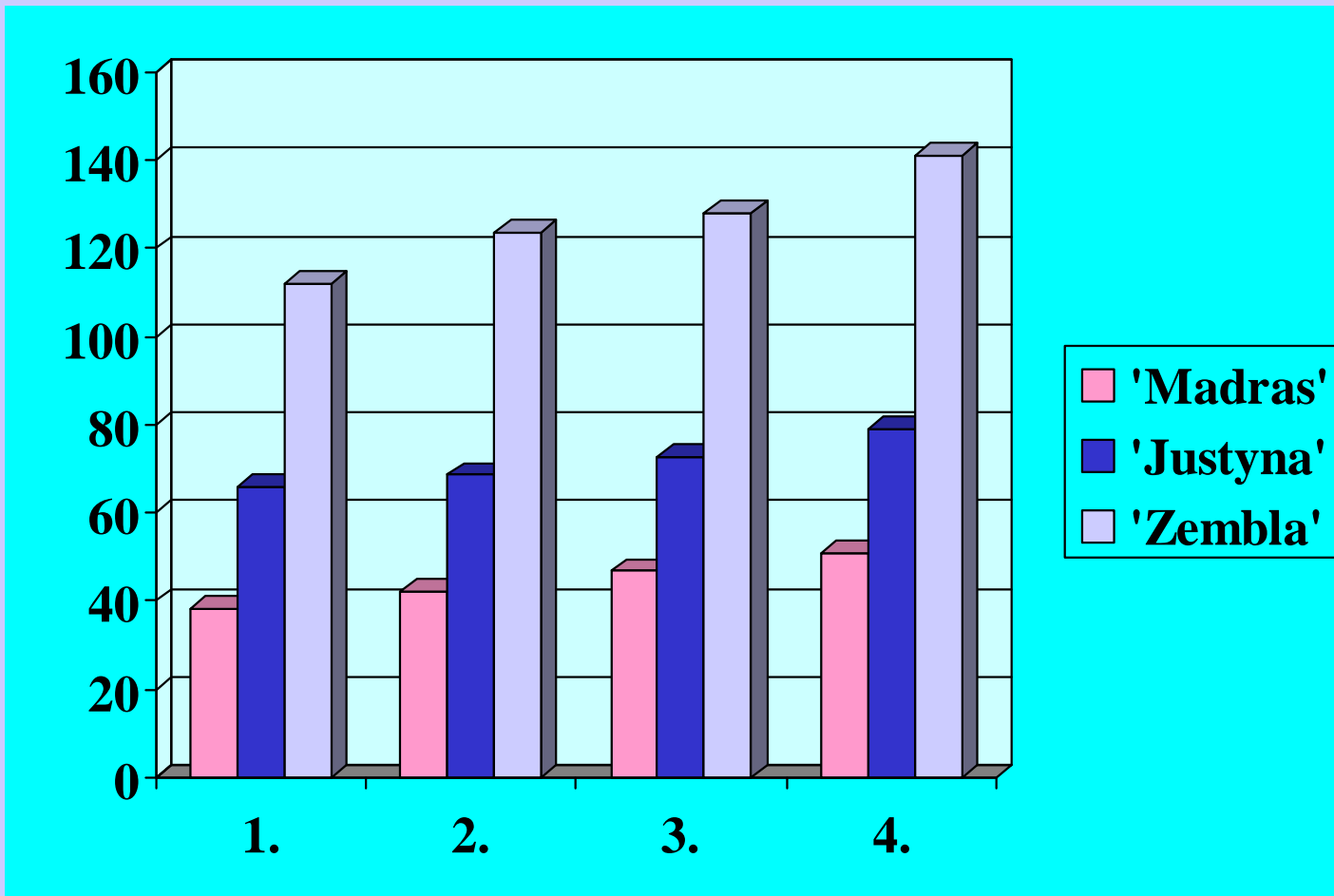


Fig. 3 The effect of Pentakeep-V on plant height (cm) (1. Standard fertilization, 2. 50% increased fertilization, 3. Pentakeep-V+standard fertilization, 4. Pentakeep-V+50% increased fertilization).

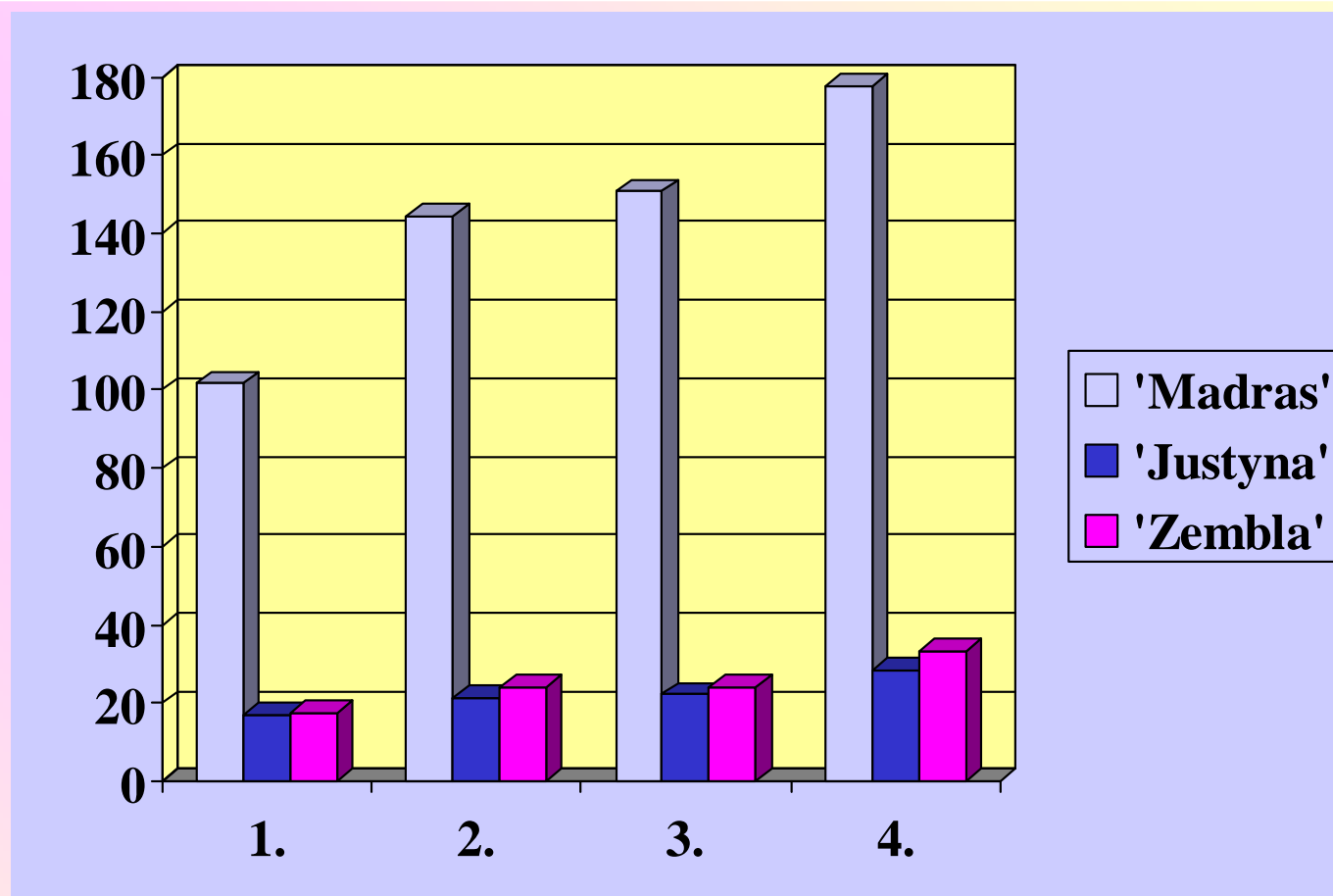


Fig. 4 The effect of Pentakeep-V on inflorescence number per plant (1. Standard fertilization, 2. 50% increased fertilization, 3. Pentakeep-V+standard fertilization, 4. Pentakeep-V+50% increased fertilization).

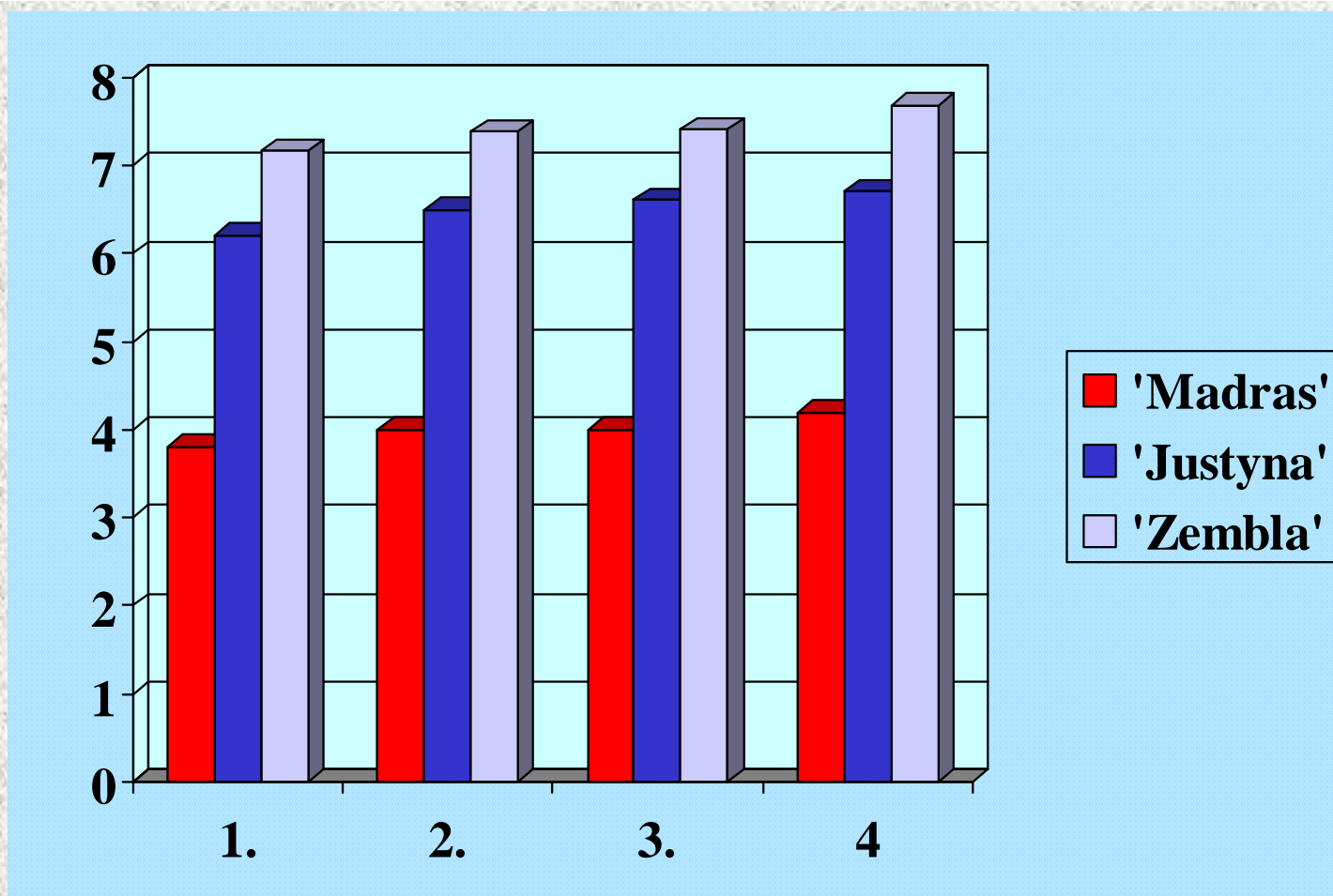


Fig. 5 The effect of Pentakeep-V on inflorescence diameter (cm) (1. Standard fertilization, 2. 50% increased fertilization, 3. Pentakeep-V+standard fertilization, 4. Pentakeep-V+50% increased fertilization).

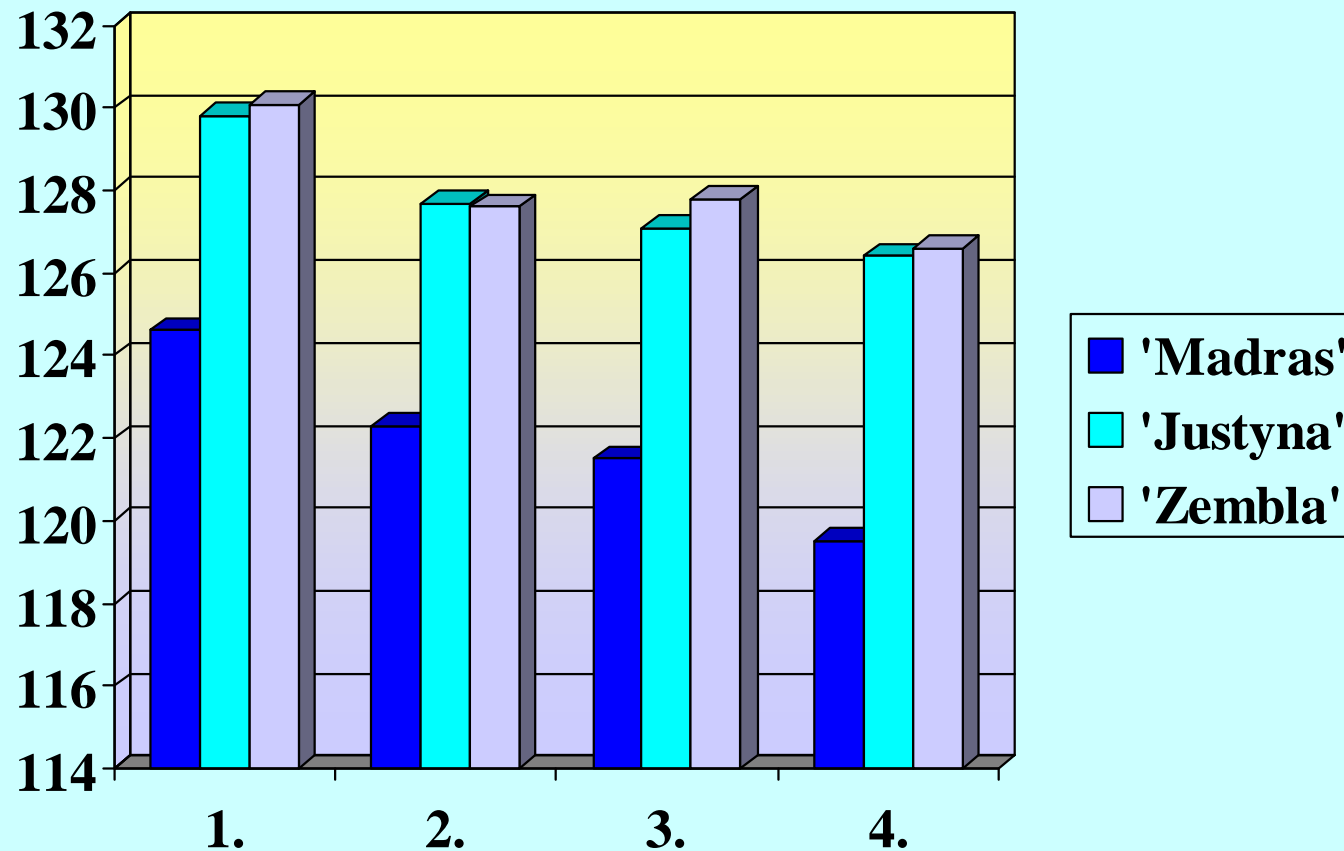


Fig. 6 The effect of Pentakeep-V on number of days from planting to flowering (1. Standard fertilization, 2. 50% increased fertilization, 3. Pentakeep-V+standard fertilization, 4. Pentakeep-V+50% increased fertilization).

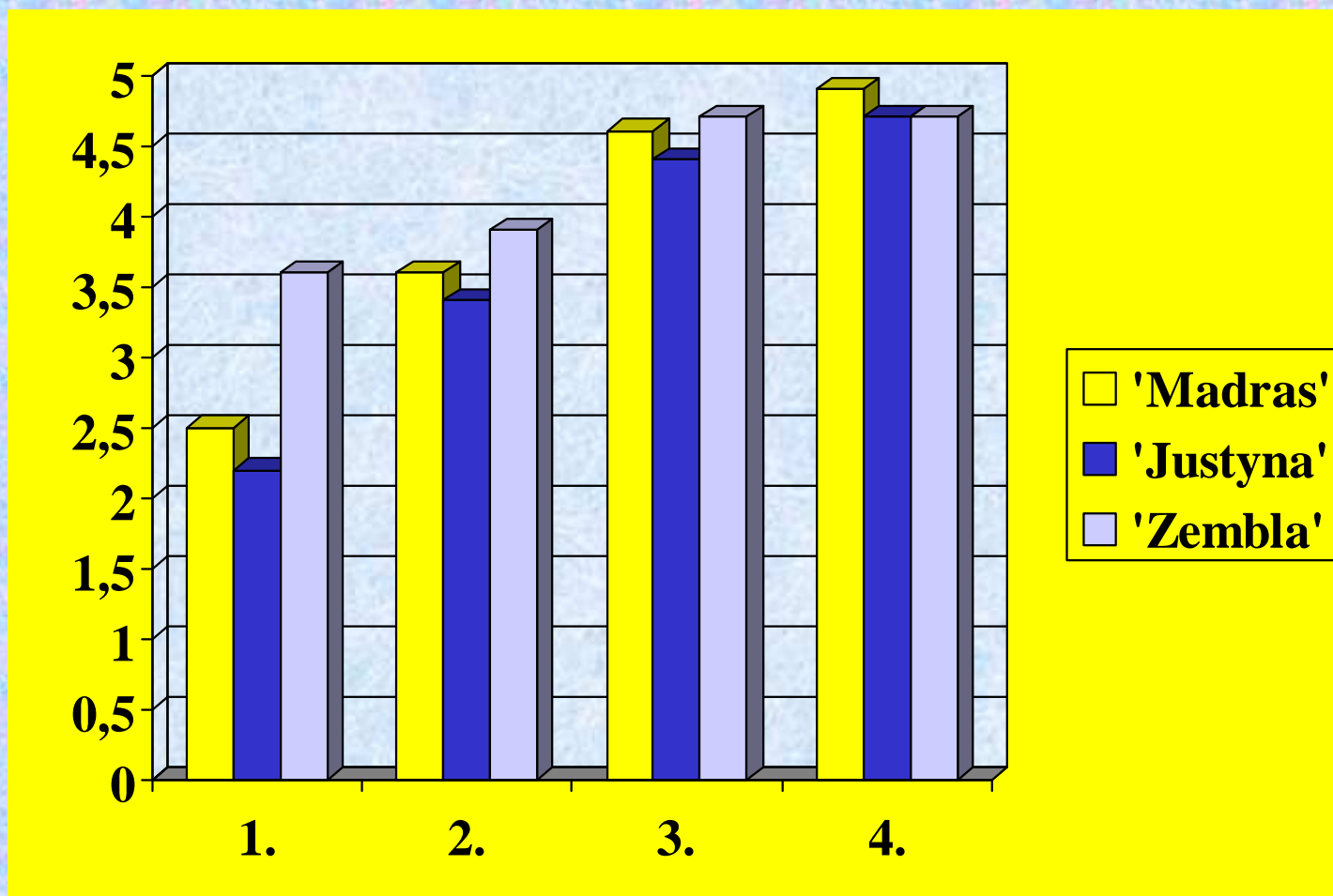


Fig. 7 The effect of Pentakeep-V on visual evaluation of chrysanthemum cultivars (1. Standard fertilization, 2. 50% increased fertilization, 3. Pentakeep-V+standard fertilization, 4. Pentakeep-V+50% increased fertilization).

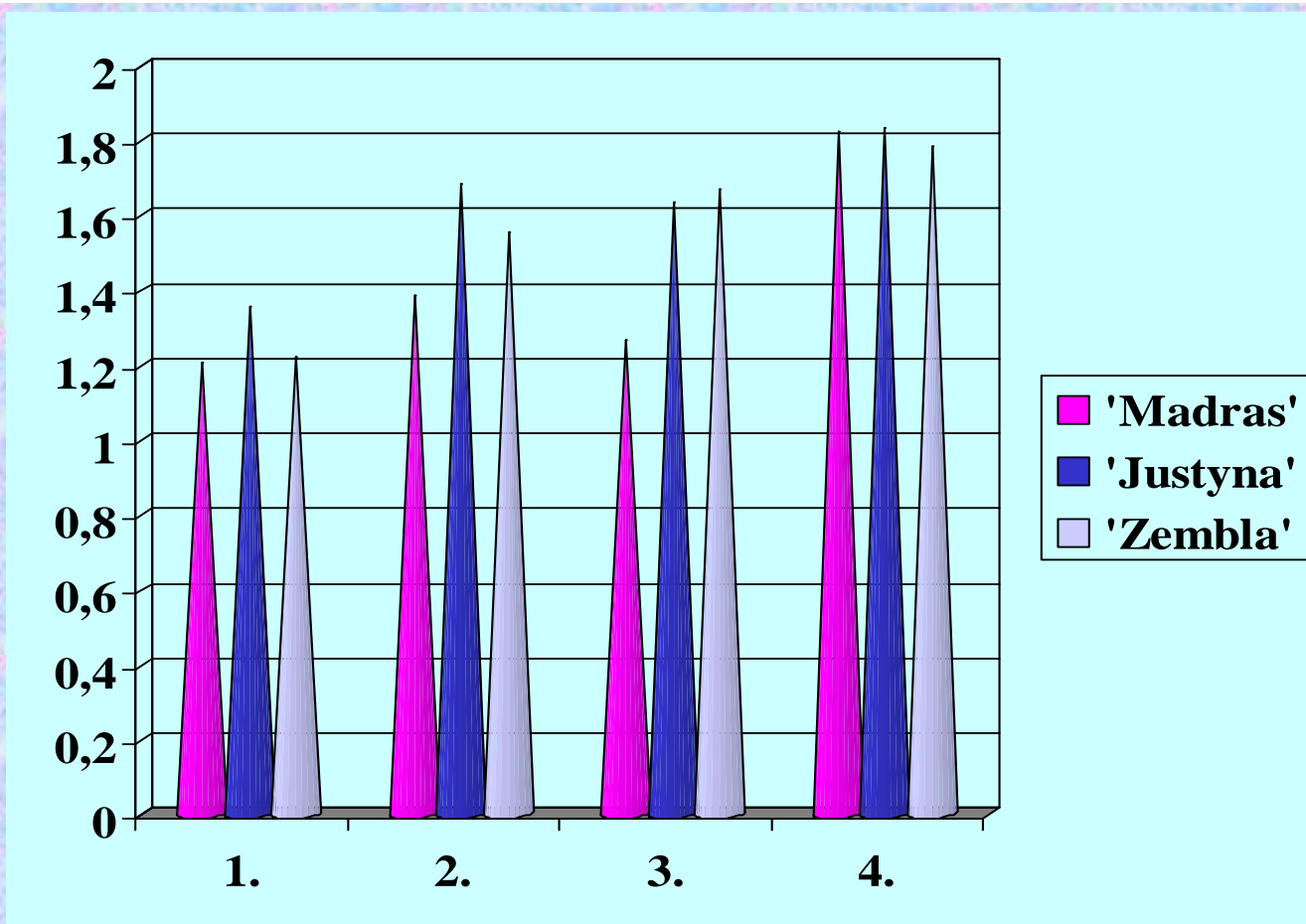


Fig. 8 The effect of Pentakeep-V on N content of leaves (% D.W.)

(1. Standard fertilization, 2. 50% increased fertilization, 3. Pentakeep-V+standard fertilization, 4. Pentakeep-V+50% increased fertilization).

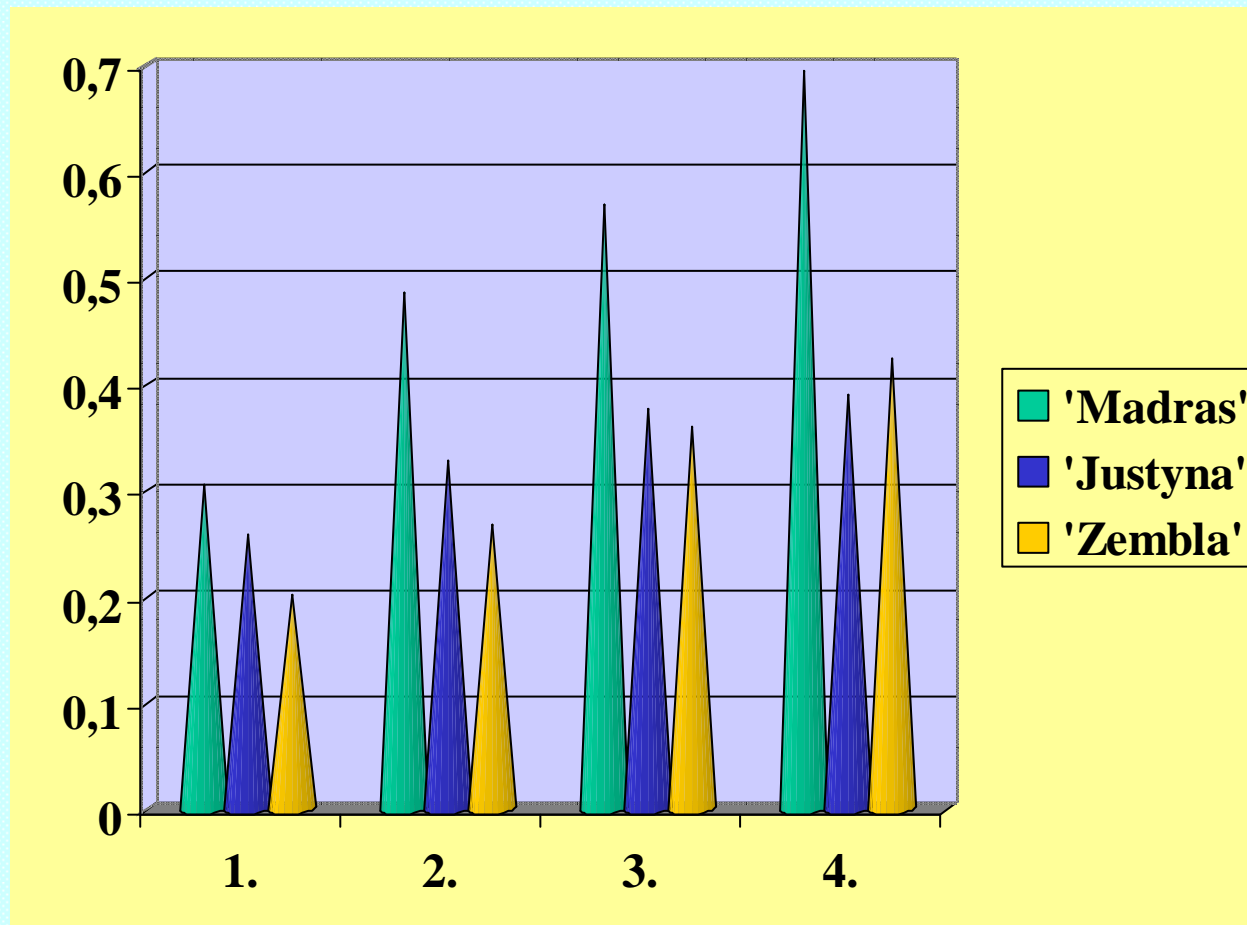


Fig. 9 The effect of Pentakeep-V on Mg content of leaves (% D.W.)

(1. Standard fertilization, 2. 50% increased fertilization, 3. Pentakeep-V+standard fertilization, 4. Pentakeep-V+50% increased fertilization).

Conclusions



The best quality of all tested chrysanthemum cultivars was achieved using Pentakeep-V at 0.05% and 50% increased fertilization.



This treatment intensified green color of leaves, increased fresh weight of plants, plant height, number of inflorescences and inflorescence diameters.



This treatment increased also leaf content of N and Mg.



As shoots of pot chrysanthemums treated with Pentakeep-V are longer, higher doses of growth retardants should be recommended to control growth.