

THE ROLE OF HONEY BEES AND BUMBLEBEES IN POLLINATION OF SOME CRANBERRY (*V. macrocarpon* Aiton) VARIETIES

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CRANBERRY POLLINATION

- ✘ the studies were conducted since 2010
- ✘ four variants
 - by honey bees,
 - by bumblebees,
 - free (open field),
 - the isolated (field) pollination
- ✘ cranberry species: 'Bergman', 'Lemonyon', 'Stevens'



CRANBERRY POLLINATION

- ✘ cranberry plantations (m^{-2}) during the blooming
 - bee colonies of the Romanian Carpathian bee (*Apis mellifera carpatica*)
 - bumblebee colonies (*Bombus terrestris*) within TRIPOL hive.



CRANBERRY POLLINATION

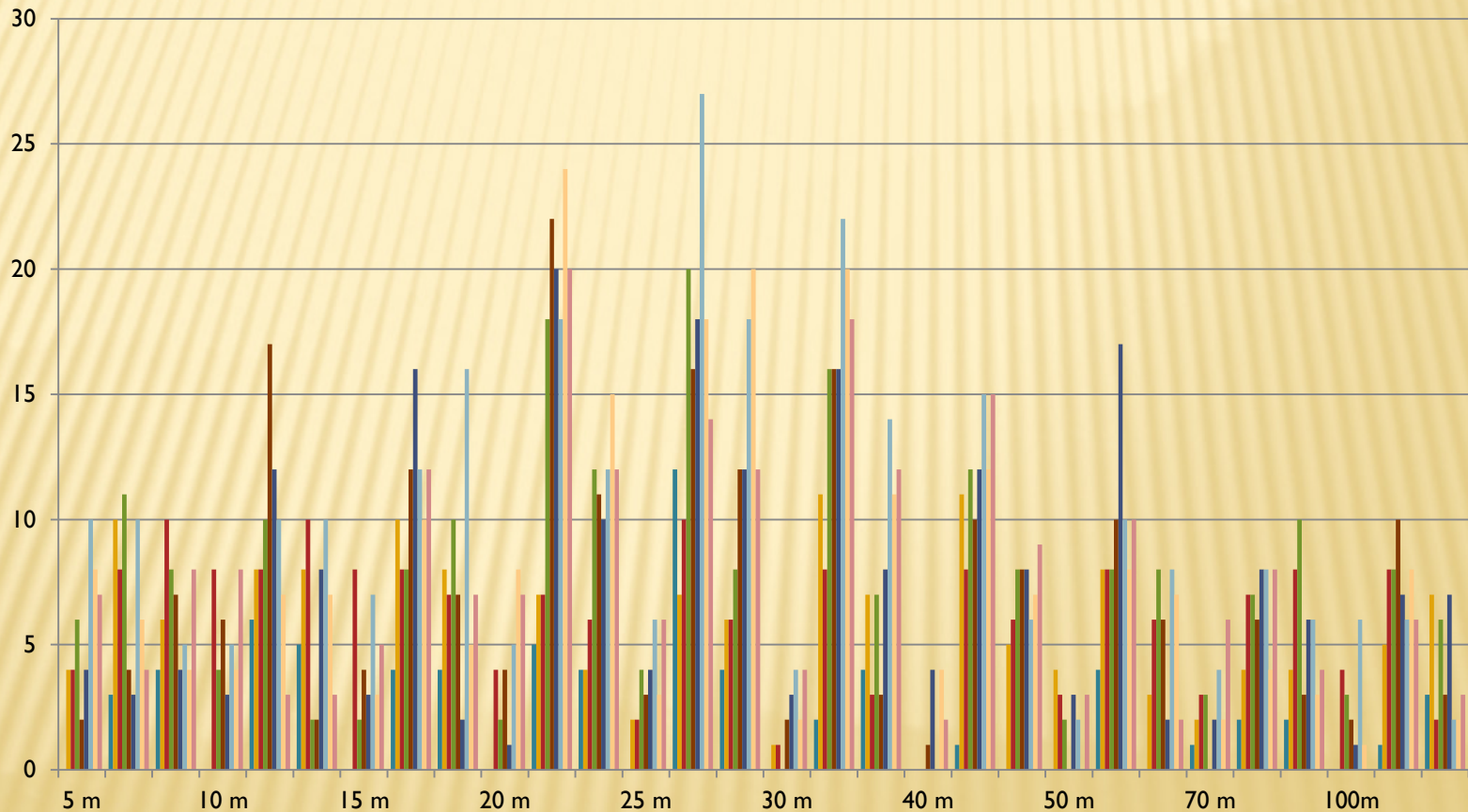
- ✘ pollinator registration from the hive



From the hive (m)	Flowering phase (%)
5, 10, 15, 20, 25, 30, 40, 50, 70, 100	25, 50, 75-100

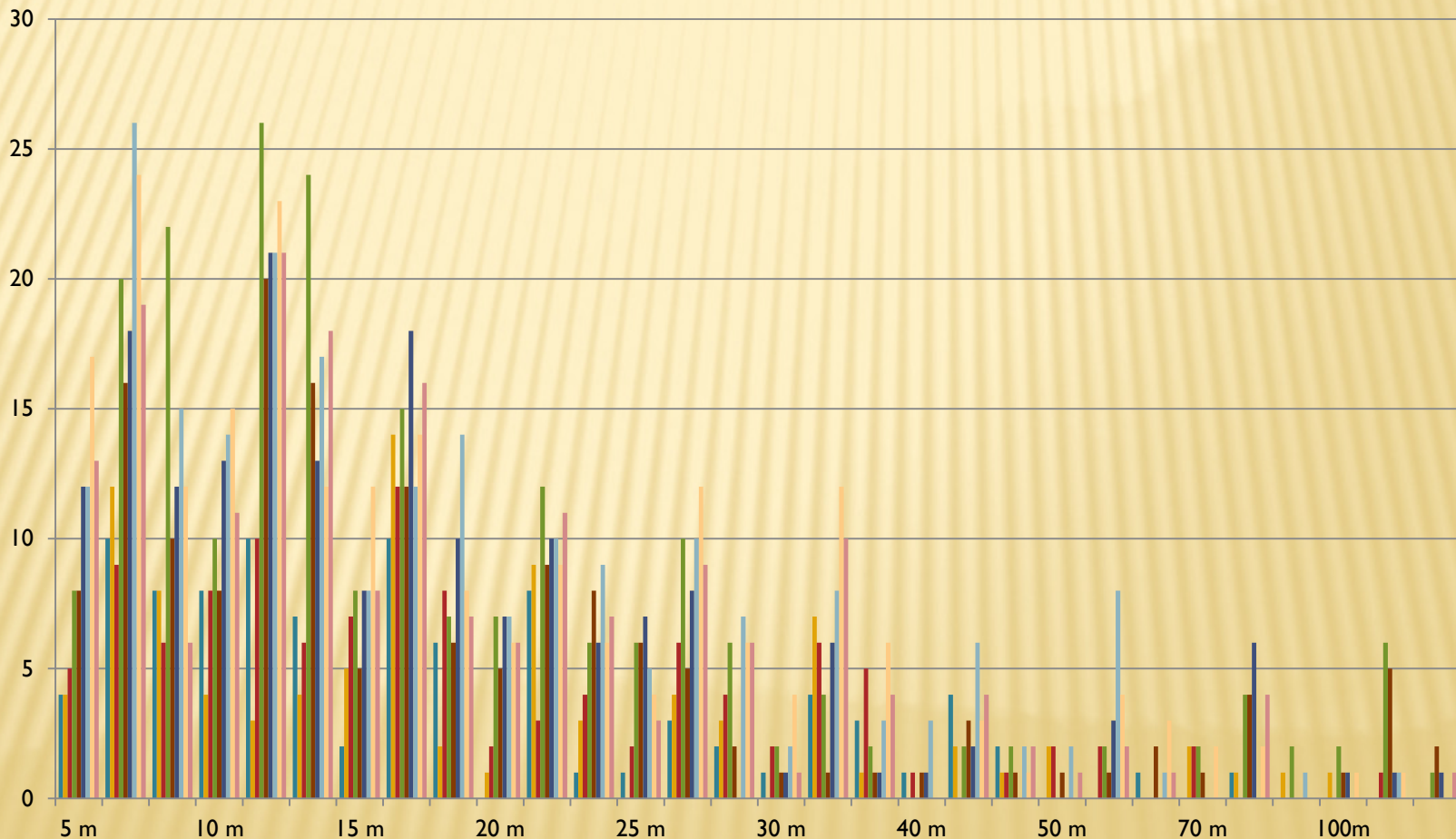
CRANBERRY POLLINATION

✕ Honey bees visit



CRANBERRY POLLINATION

✕ Bumble-bees visit



CRANBERRY POLLINATION

Berry size (mm, pieces)

'BERGMAN'	open field	bumble-bees	honey bees	isolated field
> 20	0	0	0	0
18-20	9	5	9	0
15-18	14	22	15	0
15-12	42	38	42	0
12-09	25	23	28	35
< 9	10	12	6	65

CRANBERRY POLLINATION

Berry size (mm, pieces)

'LEMONYON'	open field	bumble-bees	honey bees	isolated field
> 20	0	0	0	0
18-20	0	4	1	0
15-18	14	10	13	0
15-12	36	28	24	0
12-09	35	38	33	25
< 9	19	20	27	75

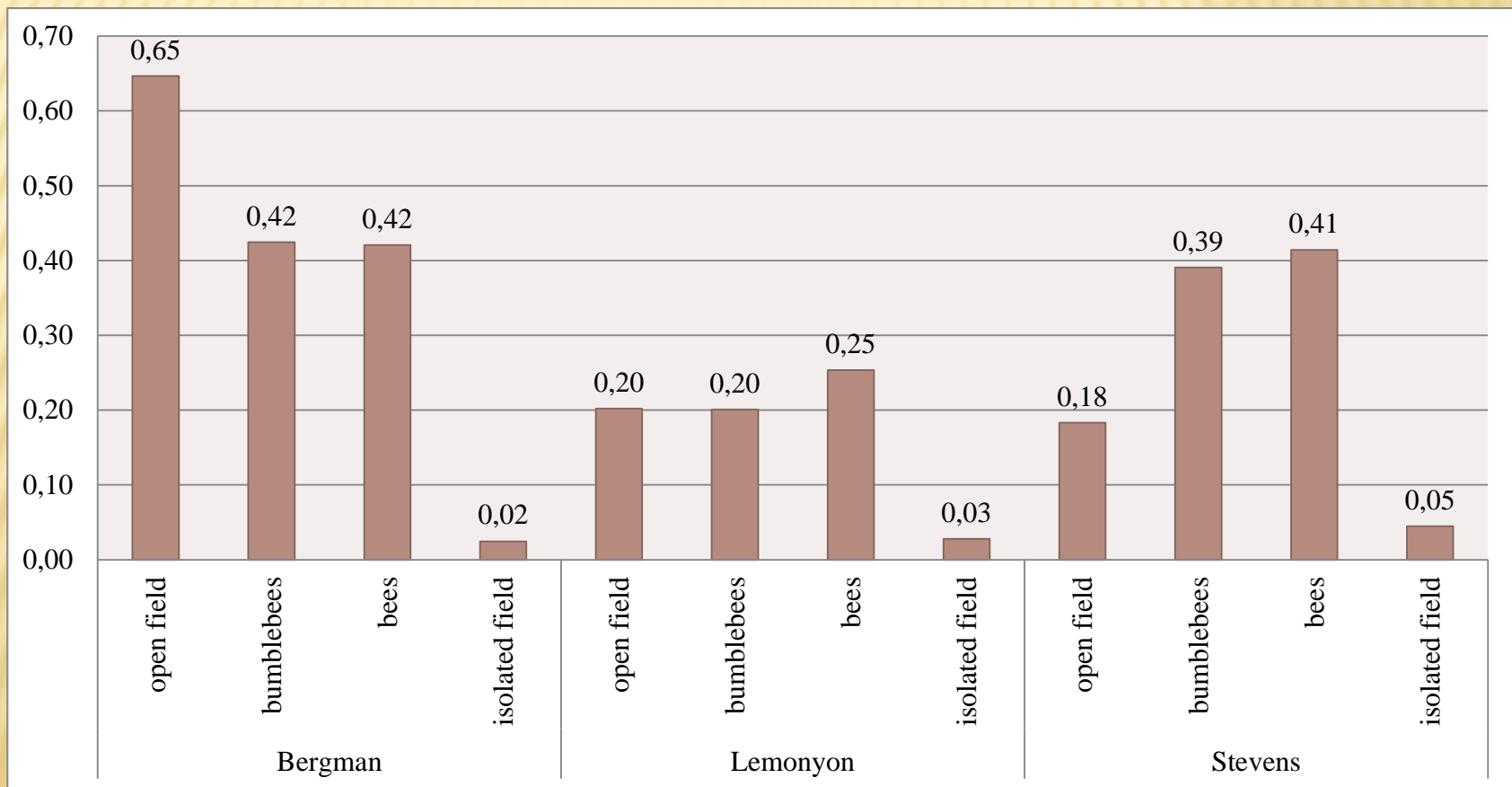
CRANBERRY POLLINATION

Berry size (mm, pieces)

STEVENS	open field	bumble-bees	honey bees	isolated field
> 20	0	1	3	0
18-20	13	14	18	0
15-18	26	38	41	3
15-12	44	27	26	15
12-09	16	18	7	51
< 9	1	2	5	31

CRANBERRY POLLINATION

Harvest of cranberry varieties, kgm^{-2}



CRANBERRY POLLINATION

100 berries mass (kg) in cranberry varieties

‘Bergman’	open field	0.123
	bumble-bees	0.133
	honey bees	0.128
‘Lemonyon’	open field	0.136
	bumble-bees	0.134
	honey bees	0.134
‘Stevens’	open field	0.138
	bumble-bees	0.152
	honey bees	0.161

CRANBERRY POLLINATION

Cranberry varieties:

‘Bergman’

- Berry size - bumble-bees
- Harvest – open field
- 100 berries mass- bumble-bees

‘Lemonyon’

- Berry size – open field
- Harvest – honey bees
- 100 berries mass – open field

‘Stevens’

- Berry size – honey bees
- Harvest - honey bees
- 100 berries mass – honey bees



THANK YOU FOR
ATTENTION!

