Ontario Beekeepers' Association Technology-Transfer Program
Orchard Park Office Centre, Suite 185, 5420 Highway 6 North, Guelph, Ontario, Canada, N1H 6J2
519-836-3609 ttp@ontariobee.com

SCREENING HONEY BEES FOR HYGIENIC BEHAVIOUR – Spring 2015

The hygienic test is used to estimate the percentage of liquid nitrogen freeze-killed pupae that were uncapped and removed in 24 hours. In each colony, four areas of capped brood (35 cells/area) were treated with liquid nitrogen. The numbers of uncapped cells and removed cells were counted after 24 hours. The percentages of uncapped cells and removed cells were then calculated. For each colony tested, the results from the four test areas were averaged.

Colonies for each beekeeper were ranked based on the percentage of removed cells.

The colonies were classified into five groups:
Group 1 = colony which removed > 95% of killed brood cells
Group 2 = colony which removed 75 - ≤95% of killed brood cells
Group 3 = colony which removed 55 - ≤75% of killed brood cells
Group 4 = colony which removed 35 - ≤55% of killed brood cells
Group 5 = colony which removed < 35% of killed brood cells

Colonies which ranked in Group 1 (>95% of killed brood cells removed) and Group 2 (>75% - 95% of killed brood cells removed) are recommended for use as resistant stock in the breeding program. Stock selection must occur each year to develop successive generations of bees with desirable traits. Maintenance of these successive generations is vital for a good breeding program.

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Bkpr	Date	Yard	Colony	Avg % Uncapped	Avg % Removed	Rank	Group
BF	28/05/2015	Honey House	29	100.00	100.00	1	1
BF	28/05/2015	Honey House	23	100.00	99.24	2	1
BF	28/05/2015	Devil's Elbow	83	100.00	96.39	3	1
BF	28/05/2015	Honey House	72	100.00	95.02	4	1
BF	28/05/2015	Honey House	22	96.07	94.60	5	2
BF	28/05/2015	Honey House	77	100.00	93.24	6	2
BF	28/05/2015	Devil's Elbow	90	100.00	91.32	7	2
BF	28/05/2015	Honey House	73	94.63	88.49	8	2
BF	28/05/2015	Devil's Elbow	89	99.19	83.62	9	2
BF	28/05/2015	Devil's Elbow	86	96.89	82.16	10	2
BF	28/05/2015	Honey House	79	93.13	80.27	11	2
BF	28/05/2015	Honey House	76	88.63	76.18	12	2
BF	28/05/2015	Devil's Elbow	84	81.51	73.53	13	3
BF	28/05/2015	Honey House	75	86.91	72.80	14	3
BF	28/05/2015	Honey House	82	100.00	72.61	15	3
BF	28/05/2015	Honey House	21	88.19	67.43	16	3
BF	28/05/2015	Devil's Elbow	88	95.45	59.05	17	3
BF	28/05/2015	Devil's Elbow	60	82.14	58.57	18	3
BF	28/05/2015	Devil's Elbow	85	82.09	57.98	19	3
BF	28/05/2015	Devil's Elbow	91	79.74	56.49	20	3
BF	28/05/2015	Devil's Elbow	62	58.36	50.64	21	4
BF	28/05/2015	Honey House	78	76.33	49.66	22	4
BF	28/05/2015	Honey House	24	62.72	46.39	23	4
BF	28/05/2015	Honey House	81	83.37	45.01	24	4
BF	28/05/2015	Honey House	20	66.28	41.11	25	4
BF	28/05/2015	Honey House	30	66.28	35.49	26	4
BF	28/05/2015	Honey House	40	37.93	31.57	27	5
BF	28/05/2015	Devil's Elbow	87	74.73	25.00	28	5