Scientific Section, American Pharmaceutical Association

ADULTERATION OF WHITE BEES WAX.*

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White wax was at one time an article which was very highly adulterated. The adulterations were rather ingenious, by the addition of such things as white lead, starch and other insoluble substances. Water was very frequently incorporated for the purpose of adulteration by agitation while the wax was in a melted state.

The natural fats, such as tallow, suet and lard were used. These were easily detected by the saponification number and the lowering of the melting point. More crude adulterations have been attempted, such as the addition of paraffin, soap and rosin.

Japan wax has been employed for adulterating white wax. For the detection of Japan wax in white beeswax a 10 Gm. sample is boiled for one minute with 120 mils of water and one mil of caustic soda. If Japan wax be present a soap will immediately form, which will solidify on cooling.

Spermaceti and lard have been used, but this mixture renders the wax soft and less cohesive, and of a smoother and less granular fracture. The odor on melting is changed some, by the addition of these substances.

To-day the white wax which is sold on the market is of a good quality. To prove this statement I have collected samples of white beeswax from various parts of the City of Philadelphia and examined them according to the tests set down in the U. S. P. The only point of difference was in the iodine figure, where the U. S. P. directs the use of Hübl's solution I have changed and employed Hanus' solution. In using this solution much time can be saved and greater accuracy attained. Out of the fifteen samples examined only one was adulterated, this adulteration being white lead.

The following table will show the range of the samples:

No. of sample.	M. P.	Acid Fig.	Sap. Fig.	Iodine Fig.	Action H_2SO_4.
1	63° C.	14	93	14 percent	O. K.
2	64° C.	13.7	89	12 percent	O. K.
3	64° C.	13	82	18 percent	O. K.
4	60° C.	15	87	17.5 percent	O. K.
5	58° C.	14	90	21 percent	O. K.
6	75° C.	0.2	0.5	1.2 percent	No reaction
7	61° C.	13	89	16 percent	O. K.
8	65° C.	12	92	19.5 percent	O. K.
9	60° C.	13	88	15 percent	O. K.
10	58° C.	11	84	16 percent	O. K.
11	63° C.	12	83	18 percent	O. K.
12	68° C.	18	95	14 percent	O. K.
13	60° C.	15	95	11 percent	O. K.
14	59° C.	20	92	12 percent	O. K.
15	62° C.	19	91	16 percent	O. K.

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