

NOTE ON "DRAWN" OR EXHAUSTED CARAWAYS.

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ATTENTION was recently directed to the adulteration of caraway "seeds" by the admixture of "drawn" or exhausted caraways (*i.e.*, "seeds" from which the flavouring matter had been extracted). We obtained a specimen of "drawn" caraways and examined it, together with genuine caraways of good quality.

The exhausted sample was much darker in colour, and had lost the pleasant aromatic smell of unexhausted "seeds."

The following are the results :

	Loss at 100° C.	Approximate Volatile Essential Oil.	Fixed Ether Extract.	Alcohol Extract after Ether Extract.	Ash less Sand.	Ash Soluble in Water.	Ash Insoluble in Water.	Silica.
Genuine Dutch caraways .	12·3	1·9	20·4	11·6	5·8	2·1	3·7	0·3
" " " "	11·3	1·5	19·5	9·5	6·3	2·1	4·2	0·4
" Drawn " caraways ...	6·9	0·1	16·1	12·0	6·3	2·2	4·1	0·4

The "approximate volatile oil" was obtained in the same manner as described by us in a previous paper on ginger (ANALYST, xviii., 197), viz., by taking the flask containing the ether extract and drying it on a shelf over the water-oven until it loses only a milligramme or so in ten minutes. It is then dried to constancy inside the water-oven to furnish the "fixed ether extract," and the difference is called "volatile essential oil."

From the above figures it will be noticed that the effect of exhausting the caraways has been to cause almost the total disappearance of the volatile oil upon which the aroma of the seeds depends, while the "fixed ether extract" has decreased by one-fifth. The other items, with the exception of the moisture, remain practically the same.

In our opinion, therefore, samples showing a low percentage of "volatile essential oil" and "fixed ether extract," and containing, if unground, many dark seeds, should be viewed with suspicion.
