

A NOTE ON DRIER CAPACITIES

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It is still customary to refer to the capacity of a drier in terms of pounds of made tea per hour presumably because it appears simpler to judge the performance of a firing machine from its output than from the pounds of moisture it is capable of evaporating. It is perfectly correct to do so provided, of course, the degree of wither of leaf is specified. Whereas the evaporative capacity of a drier is constant irrespective of the wither, all other conditions being equal, the intake and output varies considerably.

In view of the important bearing this question has on factory organisation, the following table has been drawn up to show the relationship between degree of wither and the capacity of a drier. For the purpose of illustration a drier rated to give 100 lbs made tea per hour under standard conditions has been chosen. By 'standard conditions' it is meant that the temperature of the inlet air is 190° to 195°F, that of the exhaust air 120° - 125°F, and that the moisture content of withered leaf is about 55% (equivalent to 45% outturn made tea to withered leaf.)

Type of wither	% outturn of made tea to withered leaf	POUNDS PER HOUR (APPROXIMATE)			
		(1) Output made tea	(2) Moisture evaporated	(3) Intake * fermented leaf	(4) Intake Withered leaf
Very Soft	40	80	116	196	202
	41	84	116	200	206
Soft	42	88	116	204	210
	43	92	116	208	214
	44	96	116	212	218
Medium	45	100	116	216	222
	46	104	116	220	226
	47	108	116	224	230
Hard	48	112	116	228	234
	49	116	116	232	238
Very Hard	50	120	116	236	242

* Note:—It is assumed that a 3% loss occurs in the rolling room.

The effect of degree of wither on the intake and output is clearly seen in these figures. One important point that will be noted is that for any variation in the moisture content of withered leaf the difference in the output is equal to that in the intake. That is to say, if a drier is expected to give 50 lbs made tea per hour more as the result of a harder wither its intake will also increase by 50 lbs of withered leaf per hour.

