

Investigation Report: JTI New Dual and New Green

July 2020

Abstract

Under regulation 15 of the Tobacco and Related Products Regulations, the production and supply of cigarettes with a “characterising flavour” has been prohibited in the UK since 20 May 2020.

Imperial Tobacco has undertaken an investigation to determine whether cigarettes sold under JTI’s “New Dual” and “New Green” brands in the UK have a characterising flavour. This was prompted by reports Imperial received that the products within these ranges still had a distinctive menthol flavour.

The investigation focussed on whether, as a matter of the factual evidence, the statutory test for a characterising flavour is met in relation to the relevant JTI products. The statutory test under reg. 2(1) is as follows:

“characterising flavour” means a smell or taste **other than one of tobacco** which—

- (a) is clearly noticeable before or during consumption of the product; and
- (b) results from an additive or a combination of additives,

including, but not limited to, fruit, spice, herbs, alcohol, candy, menthol or vanilla

In keeping with the broad definition of “characterising flavour” set out above, the technical sensory analysis conducted as part of this investigation was not restricted to any particular taste or smell attribute. However, the central hypothesis of the investigation is to determine whether the relevant JTI products have a menthol taste. This is because:

- JTI has confirmed in correspondence with Imperial that the products contain menthol; and
- It has been widely reported in the press, social media and via retail trade channels that a large number of UK consumers notice a menthol taste when smoking the products.

For completeness, the scope of this investigation is limited to the following 8 SKUs available in the UK, all of which JTI have stated in trade advertising include its “new distinctive blend” post 20 May 2020:

New Dual	<ol style="list-style-type: none"> 1. Sterling New Dual 2. Benson & Hedges New Blue Dual 3. Benson & Hedges New Dual 4. Sovereign New Dual
New Green	<ol style="list-style-type: none"> 5. Sterling New Superkings Green 6. Benson & Hedges New Superkings Green 7. Berkeley New Superkings Green 8. Mayfair New Green

Methodology

There is no legal definition for the term “clearly noticeable” and no single, established methodology for how to determine whether this statutory test is satisfied.

However, it is considered that the most authoritative guidance on methodology for assessing characterising flavours, is the 2016 Report undertaken by the Health Effects Tobacco Composition (**HETOC**) at the request of the European Commission (*“Mapping of best practices and development of testing methods and procedures for identification of characterising flavours in tobacco products”*¹).

The HETOC report recommends the following different testing methodologies:

- Chemical analysis of additives
- Expert sensory panel analysis
- Consumer sensory analysis

By conducting all of the above, this investigation sought to obtain a comprehensive picture of the flavour attributes of JTI’s New Dual and New Green products.

In accordance with the recommendations in the HETOC report, different methodologies were used for the expert and consumer sensory panel tests:

- The expert sensory panel used the “Quantitative Descriptive Analysis” (QDA) methodology which requires specialist training in detecting flavour attributes in tobacco products (see Part B).
- The consumer sensory panel used the “Check All That Apply” (CATA) methodology which does not require specialist training, but which relies on a much larger panel to establish whether non-tobacco flavours are noticeable across a wide range of consumers (see Part C).

¹ https://ec.europa.eu/health/sites/health/files/tobacco/docs/hetoc_frep_en.pdf

Conclusion

The investigation conclusively finds that all products within JTI's New Dual and New Green ranges have a characterising menthol flavour. Applying the statutory test under reg. 2(1) of the Tobacco and Related Products Regulations:

(1) Do the products have an additive capable of imparting a non-tobacco flavour?

Yes. As Part A shows, menthol has clearly been added to all 6 products tested within the New Green and New Dual ranges.

While two SKUs within the relevant ranges were not sampled, the investigation finds no reason to conclude that there is any reason to distinguish between (i) the menthol content or (ii) taste impression within the New Green and New Dual ranges.

The menthol quantity in the tobacco blend was broadly consistent across all products sampled, ranging from 1.09 to 1.53mg. Small differences in menthol levels between specific products are due to cigarette size (KS vs SKS) or production variations.

(2) Is that non-tobacco flavour clearly noticeable?

Yes. All four expert sensory reports concluded that there was a clearly noticeable menthol taste impression in the products they sampled. See Part B.

This finding was further supported by UK consumer sensory testing in which 78% of respondents reported that they noticed a menthol taste when smoking Sterling New Dual. See Part C.

Unlike the tobacco products sensory experts, the consumer panel were not qualified to assess the *intensity* of the menthol flavours. However, as acknowledged by the HETOC (2016) report, intensity can be indirectly derived from the number of consumers that report that a certain flavour is present in the product. The investigation concludes that a finding of 78% is conclusive evidence that the menthol flavour is clearly noticeable to consumers.

In addition, the UK consumer sensory testing found that there are other non-tobacco taste and smell attributes present in the JTI products which add to the characterising flavour. For example, it was found that 58% of consumers noticed a "fruity" smell and 68% noticed a "sweetish" taste in the Sterling New Dual product. A "cooling effect" was also noted by the expert sensory analysts.

This stood in sharp contrast to the benchmark full-flavour B&H Blue product where the taste and smell attributes were those more typically characterised with tobacco, such as "hay like" and "woody".

Taken as a whole, having assessed evidence from chemical and sensory analysis (expert and consumer) – all of which are approved by the HETOC (2016) report as methods for identifying characterising flavours in tobacco products – the evidence clearly and unequivocally points to JTI's New Green and New Dual products having a characterising flavour.

The investigation concludes that the statutory test under reg.2(1) of the Tobacco and Related Products Regulations 2016 is satisfied in relation to the JTI New Dual and New Green products.

Part A: CHEMICAL ANALYSIS

1. Methodology

Products were tested by the Laboratory Network Operations team in Hamburg, Germany. Chemical analysis was conducted under controlled conditions. Products were protected from contamination or interference prior to analysis.

Test results include two separate testing sessions: (1) Benson & Hedges New Dual, Benson & Hedges Blue New Blue Dual, Sterling New Dual and Sovereign New Dual; and (2) Mayfair New Green and Sterling New Superkings Green.

2. Results

Results of the chemical analysis of the two testing sessions are shown in Table 1 below. All products tested had menthol present in the cigarette, ranging from 1.09mg in Sterling New Dual to 1.53mg in Sterling New Superkings Green.

Analysts have concluded that the tobacco blend for the New Dual products and New Green products are substantially the same. Small differences in menthol levels between the specific products are most likely due to production variations. This is consistent with JTI's comments in trade advertising material that confirms all eight New Dual and New Green products have the same "distinctive blend".

Product	B&H New Dual	B&H New Blue Dual	Sterling New Dual	Sovereign New Dual	Mayfair New Green	Sterling New SKS Green
Format	King Size	King Size	King Size	King Size	King Size	Super King Size**
T/N/CO	7.8/0.67/9.5	7.8/0.69/9.2	7.8/0.66/8.9	7.5/0.63/8.3	5.4/0.51/6.1	6.8/0.65/7.4
Menthol in cigarette [mg/cig]	1.14	1.09	1.12	1.12	1.32*	1.53*
Menthol in Smoke [mg/cig]	0.15	0.16	0.17	0.14	0.105	0.129
Filter Ventilation [%]	*	*	30.5	32.6	55.6	50.4
Puff Number	6.0	5.9	5.8	5.8	6.7	8.3

* Total menthol quantity based on combination of menthol levels found in tobacco rod and filter

** As Sterling New SKS Green has a Super King Size tobacco rod, this results in higher overall menthol quantity compared to the other products sampled (1.53 mg/cig). It should not be taken as showing higher menthol quantities in the tobacco blend.

Part B: EXPERT SENSORY PANELS

1. Methodology

After conducting initial chemical analysis of the New Dual products, expert sensory analysis was conducted. This analysis took place over four separate sessions, resulting in four separate reports. See Annex 1 pages 1 to 44.

The analysis was carried out by a trained panel of sensory experts in Hamburg, Germany. All panellists are pre-screened to ensure that their sense of taste and smell is sufficiently sensitive to detect flavours in tobacco. Aside from their specialist expertise in sensory analysis, the panel members are independent members of the public. They are not employed by, or part of, Imperial Brands plc or any of its subsidiaries.

The panel of 15 sensory analysts operated in accordance with ISO standards 13299 (which sets out the methodology for sensory testing) and used the Quantitative Descriptive Analysis (QDA) method. To avoid any bias, products were tested 'blind' i.e. the panel did not know what tobacco products they were smoking, who they had been manufactured by, or the purpose of the research. This methodology was used consistently across all four panels.

Further details of the methodology used in the panels is set out on page 2 of Annex 1.

2. Results

A. TEST ONE: First Sensory Report dated 16 June 20

The panel analysed Sovereign New Dual individually, tested in conjunction with non-UK products as part of a wider project covering JTI products launched in multiple EU markets.

The panel concluded that Sovereign New Dual had a clearly noticeable menthol taste. The report for Test 1 can be found at pages 1 to 7 of Annex 1.

B. TEST TWO: Second Sensory Report dated 24 June 20

The panel analysed the New Dual products benchmarked against their pre-20 May 2020 menthol counterparts.

New Dual Product (post 20 May 2020)	Benchmark Product (pre-20 May 2020)
Benson and Hedges New Dual	Benson and Hedges Dual
Benson and Hedges Blue Dual	Benson and Hedges Superkings Blue Dual
Sterling New Dual	Sterling Dual Superkings Capsule
Sovereign New Dual	Sovereign Dual

For all four New Dual products, the panel concluded that a noticeable menthol taste could be identified when smoking.

In addition, the panellists identified a "cooling effect" in the mouth whilst smoking the product. The "cooling effect" is clearly distinguishable as a feeling in the mouth and separate to the identification of a menthol taste.

The test report for Test 2 can be found at pages 8 to 25 of Annex 1.

C. TEST 3: Third Sensory Report dated 1 July 20

The panel analysed the New Green products. As direct pre-20 May 2020 menthol counterparts were not available for benchmark testing as they were no longer available to purchase at the time of testing, alternative pre-20 May 2020 products were used.

New Dual Product (post 20 May 2020)	Benchmark Product (pre-20 May 2020)
Mayfair New Green	Sterling Dual Superkings Capsule
Sterling Superkings New Green	Sterling Dual Superkings Capsule

The panel concluded that both New Green products have a menthol taste impression and evoked a cooling effect. Both the menthol taste and cooling effect are clearly noticeable.

The test report for Test 3 can be found at pages 26 - 34 of Annex 1.

D. TEST 4: Fourth Sensory Report dated 21 July 20

The panel analysed the New Dual products benchmarked against standard full flavour Virginia blend cigarettes currently available in the UK market (Virginia Blend Product Group).

New Dual Product (post 20 May 2020)	Benchmark Product (pre-20 May 2020)
Benson and Hedges New Dual	Benson and Hedges Silver
Benson and Hedges Blue Dual	Benson and Hedges Sky Blue
Sterling New Dual	Sterling Blue
Sovereign New Dual	Sovereign Sky Blue

The panel concluded that the New Dual products had a menthol taste impression and evoked a cooling effect. Both the menthol taste and the cooling effect were clearly noticeable. By contrast, the Virginia Blend Product Group had a "Hay like" smell, and "Bitter" and "Hay like" taste impression that is traditionally familiar with standard tobacco products.

The test report for Test 4 can be found at pages 35 - 44 of Annex 1.

Part C: UK CONSUMER RESEARCH

1. Methodology

In addition to the expert panel sensory testing, UK consumer research was commissioned to establish whether UK consumers could identify a noticeable menthol taste in the New Dual products. The research was carried out by an independent research agency, SubstanceQi. A Central Location Test was conducted to ensure controlled and research conditions. The participants were not told the objective of the research.

A total sample of 120 adult smokers was recruited for this research. The sample was structured to be representative of the UK smoker population, including 50% Male/Female and 50% 19-29/30-40 years old. 50% of participants were "Full Flavour" smokers, 25% "Lights" (lower tar / nicotine) smokers and 25% were ex-Menthol smokers. All participants had been smoking for at least 12 months, normally smoked King Size cigarettes, and smoked at least 5 cigarettes a day on average.

A single New Dual product was selected to be tested: Sterling New Dual. This was selected as it is the most popular New Dual product. This was benchmarked against the most popular standard cigarette in the UK market: Benson and Hedges Blue.

Each individual stick was packed in a sealed plastic tube. The brand name on the cigarette was taped over to reduce visual interference. For a clear reference point against which to assess whether any taste or smell other than tobacco is present (and in line with the benchmarking approach recommended in the HETOC report) participants first smoked Benson & Hedges Blue, answered questions, then repeated the process smoking Sterling New Dual.

The testing was carried out in accordance with the "Check All That Apply" (CATA) methodology whereby participants select all of the flavour attributes that they can taste / smell in the product from a pre-defined list compiled by sensory experts. This method is specifically endorsed by the HETOC (2016) report on best practices for identifying characterising flavour in tobacco products as the most appropriate testing method to use for the determination of characterising flavours in the case of consumer panels.

According to the HETOC report, the CATA method scores high on all criteria and, crucially, "fits regulatory needs" in the sense that it enables regulators to clearly determine whether or not flavours other than tobacco are noticeable to consumers. By contrast, open-ended questions or qualitative analysis are not recommended for consumers due to their lack of sensory training.

2. Results

The test results show a very clear contrast in taste and smell attributes between the Sterling New Dual product and the standard benchmark product.

78% of participants reported that they noticed a menthol or mint taste while smoking Sterling New Dual.

By contrast, only 3% identified a menthol taste in the benchmark product, Benson and Hedges Blue. The most common taste attribute associated with the benchmark product was "hay like" (47%) – which is typically associated with the tobacco. Table 1 below shows the percentage of participants identifying the various taste attributes.

Table 1		
	B&H Blue	Sterling New Dual
	% Answering Yes	% Answering Yes
Menthol/Mint	3%	78%
Fruity	8%	37%
Hay Like	47%	23%
Sweetish	38%	68%
Chocolate	13%	4%
Put Out Campfire	26%	14%
Vanilla	19%	25%
Citrus/Tropical	3%	41%
Alcohol	3%	23%
Caramel	27%	19%
Sourish	9%	23%

In addition, 34% participants noticed a menthol or mint smell before smoking Sterling New Dual, compared to only 5% for the reference product, Benson and Hedges Blue.

It is also noted that 58% of participants noticed a “fruity” smell compared to only 16% in the reference product.

Table 2 below shows the percentage of participants identifying the various smell descriptors.

Table 2		
	Benson and Hedges Blue	Sterling New Dual
	% Answering Yes	% Answering Yes
Menthol/Mint	5%	34%
Fruity	16%	58%
Sweetish	21%	45%
Hay Like	68%	32%
Woody	73%	28%
Bitter	35%	34%

The full report for the UK consumer sensory testing can be found at pages 45 - 57 of Annex 1.