Small Business Economic Impact Statement

Chapter 314-55
Rules Concerning Marijuana Quality Assurance
and Quality Control Testing

December 8, 2021

IEc

Cannabis Quality Assurance Testing and Pesticide Screening Proposed Rule

Small Business Economic Impact Statement

Final Report | November 16, 2021

prepared for:

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LIST OF ACRONYMS AND ABBREVIATIONS

DOH	Washington State Department of Health
ESD	Washington State Employment Security Department
NAICS	North American Industry Classification System
ORIA	Office of Regulatory Innovation and Assistance
RCW	Revised Code of Washington
RFA	Regulatory Fairness Act
SBEIS	Small Business Economic Impact Statement
WAC	Washington Administrative Code
WSLCB	Washington State Liquor and Cannabis Board

EXECUTIVE SUMMARY

This report evaluates the costs for businesses required to comply with the Washington State Liquor and Cannabis Board (WSLCB)'s proposed rule related to changes in quality assurance testing for recreational marijuana. This Small Business Economic Impact Statement (SBEIS) was developed to determine whether the proposed rule would result in more than minor costs to small businesses, and whether it would have a disproportionate cost impact on small businesses. The primary sources of information for this analysis include data reported by licensed businesses to WSLCB through the Leaf Data Systems traceability system and information gathered through outreach to businesses in the industry and knowledgeable subject matter experts.

Any licensed business producing marijuana flower and/or intermediate products for which existing regulations require testing would incur costs under the proposed rule. As of July 2021, there were 1,306 licensed marijuana producers and processers in the State of Washington.[1] Of those businesses, 99.3 percent are considered small.[2]

The proposed rule requirements most likely to result in costs to businesses are:

- **Addition of Pesticide Testing,** which would result in businesses needing to pay the cost of pesticides testing beyond the existing testing costs;
- **Change in number of one-gram flower samples required,** which would increase if a business is testing less than 5 pounds of flower at a time, resulting in lost revenues as additional flower is diverted to testing; and
- **Addition of random or investigation-driven heavy metal screening,** which may result in costs of pre-emptive, voluntary heavy metals testing for businesses that voluntarily conduct some heavy metals testing to ensure compliance with existing heavy metals limits.

This analysis considers whether the costs of the rule would result in more than minor costs to small businesses, defined as costs exceeding 0.3 percent of annual revenues. It evaluates the costs of the proposed rule to three types of businesses within the industry: those that test flowers only, those that test only intermediate products, and those that test both flowers and intermediate products.

[1] Email communications from WSLCB to IEc, August 24, 2021. Licensed businesses include holders of three license types – Producer, Processor, and Producer/Processor. This report refers to this group of businesses collectively as "producers and processors".

[2] Number of large businesses provided by the Employment Security Division (ESD) via email on September 20, 2021.

As summarized in Exhibit ES-1, on average, this rule is likely to impose more than minor costs on all three types of businesses in the industry. A significant majority (72 percent) of businesses in the regulated industry would experience more than minor costs as a result of the proposed rule. For businesses testing only flower, the weighted average annual costs of the rule as a percentage of average revenue are between 0.7 percent and 1.6 percent, exceeding the minor cost threshold of 0.3 percent. For businesses testing intermediate products only, the weighted average annual cost of the rule as a percentage of average revenue is between 0.4 percent and 0.9 percent. Producer/Processor businesses that test both flower and intermediate products may anticipate a weighted average annual cost ranging from 0.9 percent to 2.1 percent. It is important to note that the rule provision that provides the ability for license holders to test larger amounts of flower with a single panel of 502 tests and a single pesticide test would reduce these estimated costs.

Given that the regulated businesses in this industry are small (more than 99 percent of them), the rule is found to disproportionately impact small businesses. This SBEIS accordingly identifies and documents cost mitigation strategies.

EXHIBIT ES-1. WEIGHTED AVERAGE ANNUAL RULE COSTS, REVENUES, AND COSTS AS A PERCENTAGE OF REVENUES (2020$)

BUSINESS TYPE	WEIGHTED AVERAGE ANNUAL REVENUES	WEIGHTED AVERAGE ANNUAL TOTAL COSTS (LOW)	WEIGHTED AVERAGE ANNUAL TOTAL COSTS (HIGH)	COST AS PERCENT OF REVENUE (LOW)	COST AS PERCENT OF REVENUE (HIGH)
Testing Flowers Only	$227,660	$1,616	$3,635	0.7%	1.6%
Testing Intermediate Product Only	$1,329,917	$4,916	$12,290	0.4%	0.9%
Testing Flowers and Intermediate Product	$1,190,508	$10,326	$24,436	0.9%	2.1%
All Businesses	**$1,038,275**	**$7,625**	**$18,140**	**0.7%**	**1.7%**

Sources:
Average annual revenue data extracted from Leaf Data System by LCB, October 2021.
Annual number of tests for flower and/or intermediate products by license holder from 2018 through 2020 provided from Leaf System by WSLCB on October 22, 2021.
Cost of pesticide test based on interviews with producers and processors, September 2021; results of industry survey conducted by WSLCB in September/October 2021; and online research into testing prices posted on laboratory websites (October 2021).
Value of 1 gram of marijuana flower based on interviews with producers and processors, September 2021; and results of industry survey conducted by WSLCB in September/October 2021.

CHAPTER 1 | INTRODUCTION

This report evaluates the costs for businesses required to comply with a proposed rule by the Washington State Liquor and Cannabis Board (WSLCB) related to changes in quality assurance testing for recreational marijuana in the State of Washington. This Small Business Economic Impact Statement (SBEIS) was developed in accordance with the Regulatory Fairness Act (RFA), Revised Code of Washington (RCW) Section 19.85 to determine whether the proposed rule would have a disproportionate cost impact on small businesses. The primary sources of information for this analysis include data reported by licensed businesses to WSLCB through the Leaf Data Systems traceability system and information gathered through outreach to businesses in the industry and knowledgeable subject matter experts.

1.1 NEED FOR THE RULE

In 2018, the WSLCB was approached by industry partners, including stakeholders, medical marijuana patients, marijuana business owners, and other interested parties, to require producers and processors to test recreational marijuana crops for pesticides and heavy metals. These partners asserted that such a move, already adopted in other states, would inspire confidence among consumers, increase access to products meeting the health and safety needs of all Washingtonians, and bolster sales. The proposed rule is anticipated to increase testing efficiencies, safety, and quality for all marijuana products produced and sold in Washington State.

1.2 SUMMARY OF THE PROPOSED RULE

WSLCB is proposing changes to specific sections of chapter 314-55 of the Washington Administrative Code (WAC) regarding quality assurance testing and product requirements for recreational marijuana. Exhibit 1-1 summarizes the relevant existing regulations, identifies how they would change under the proposed rule, and describes how the change would result in costs to affected businesses.

Under the existing regulations, licensed producers and processors must test every five-pound lot of flower and/or batch of intermediate cannabis product for a series of parameters referred to here as the Initiative-502 panel of tests, or "the I-502 panel of tests". The required tests for marijuana flower include:

- Moisture content;
- Potency analysis;

- Foreign matter inspection;
- Microbial screening; and
- Mycotoxin

The existing regulations further stipulate that for every five-pound lot of flower required to be tested, the producer must submit four, one-gram samples.

The required tests for intermediate products such as marijuana mix, concentrates and extracts, and infused cooking oils and fats differ depending on the specific product, but include some subset of the above-listed tests required for flower.

Finally, existing regulations identify limits for levels of certain heavy metals in marijuana flower and intermediate products, but they do not require heavy metals testing. The regulations do, however, confirm that upon request by WSLCB or its designee, licensees must provide samples of marijuana products or other related materials to be screened for pesticides, chemical residues, unsafe levels of heavy metals, or other quality assurance tests as deemed necessary by WSLCB.

The proposed rule includes the following provisions:

1. **Addition of Pesticide Testing:** Addition of pesticide testing to the I-502 panel of tests required for marijuana flower to be sold for retail, and for intermediate products;
2. **Change in number of one-gram flower samples required:** Changes in the required number of one-gram samples that must be submitted for each I-502 panel of tests. For amounts of marijuana up to 10 pounds, a minimum of eight, one-gram samples must be taken (i.e., an increase in the number of one-gram samples required for amounts of flower 5 pounds or less from four to eight). For other flower amounts up to 50 pounds, the number of one-gram samples required per pound of tested product would be decreased compared to existing requirements[3];
3. **Addition of random or investigation-driven heavy metal screening:** Confirmation that existing heavy metal limits apply to all marijuana products, and identification that WSLCB may conduct random or investigation-driven heavy metal screening to ensure compliance with these limits; and
4. **Increase in maximum amount of marijuana flower that may be represented by a single I-502 panel of tests:** Revision of the amount of marijuana flower that may be represented by a single I-502 panel of tests from one per five-pound lot to one per a given amount of a single strain of marijuana up to 50 pounds.

While the proposed rule consists of a variety of changes to WAC 314-55-101 and WAC 314-55-102, the requirements determined most likely to result in costs to businesses are

[3] The proposed rule includes the following required number of one-gram samples per amount of flower to be tested: flower amounts >10 lbs but <20 lbd (12 samples); >20 lbs but <30 lbs (15 samples); >30 lbs but <40 lbs (18 samples); and >40 lbs but <50 lbs (19 samples).

the first three described above: the addition of testing requirements for pesticides, which would result in businesses needing to pay the cost of pesticides testing beyond the existing testing costs; the change in the number of one-gram samples required for each panel of I-502 tests, which would increase if a business is testing less than 5 pounds of flower at a time, resulting in lost revenues as additional flower diverted to testing; and the cost of pre-emptive, voluntary heavy metals testing induced by the proposed rule, which may result in costs of heavy metals testing for businesses that voluntarily conduct heavy metals testing to some extent to ensure compliance with existing heavy metals limits. Therefore, these proposed testing requirements are the focus of this analysis of potential impacts on small businesses. The increase in the maximum amount of marijuana flower that may be tested with a single I-502 panel of tests would not increase costs to businesses, but instead would decrease costs for some businesses that would be able to test larger amounts of flower with the same number of I-502 test panels, reducing existing testing costs.

EXHIBIT 1-1. SUMMARY OF EXISTING REGULATIONS AND PROPOSED RULE CHANGES

TOPIC	EXISTING REGULATION	PROPOSED RULE	COST IMPLICATION
MARIJUANA FLOWER			
Required Tests	1. Moisture content 2. Potency analysis 3. Foreign matter inspection 4. Microbiological screening 5. Mycotoxin screening	1. Moisture content 2. Potency analysis 3. Foreign matter inspection 4. Microbiological screening 5. Mycotoxin screening 6. Pesticide screening	Costs to add pesticides testing to the panel of tests.
Number of One-Gram Samples	Four, one-gram samples of flower per five-pound lot of flower.	Flower amounts up to 10 lbs (8 samples); >10 lbs but <20 lbs (12 samples); >20 lbs but <30 lbs (15 samples); >30 lbs but <40 lbs (18 samples); and >40 lbs but <50 lbs (19 samples).	Businesses testing less than five pounds of flower would lose revenue from diverting additional flower for sample testing (increase in required one-gram samples from four to eight.
Heavy Metals Testing	Upon request by WSLCB or its designee, licensees must provide samples of marijuana products or other related materials to be screened for pesticides, chemical residues, unsafe levels of heavy metals, or other quality assurance tests as deemed necessary by WSLCB	WSLCB may conduct random or investigation driven heavy metal screening for compliance.	Uncertain - Costs may be incurred if proposed rule triggers some businesses to voluntarily conduct heavy metals testing.

TOPIC	EXISTING REGULATION	PROPOSED RULE	COST IMPLICATION
Amount of Flower Represented by a Single Panel of Tests	One five-pound lot.	Amounts of marijuana flower up to 50 lbs.	Potential cost savings - For businesses with amounts of flower > five pounds available for testing, fewer I-502 panels of tests would be required.
INTERMEDIATE PRODUCT			
Required Tests	Depending on product, some subset of the following tests: 1. Moisture content 2. Potency analysis 3. Foreign matter inspection 4. Microbiological screening 5. Mycotoxin screening	All tests currently required (based on type of product), plus pesticide screening.	Costs to add pesticides testing to the panel of tests.
Heavy Metals Testing	Upon request by WSLCB or its designee, licensees must provide samples of marijuana products or other related materials to be screened for pesticides, chemical residues, unsafe levels of heavy metals, or other quality assurance tests as deemed necessary by WSLCB	WSLCB may conduct random or investigation driven heavy metal screening for compliance.	Uncertain - Costs may be incurred if proposed rule triggers some businesses to voluntarily conduct heavy metals testing.

1.3 REQUIREMENTS FOR THE SMALL BUSINESS ECONOMIC IMPACT STATEMENT

RCW 19.85 requires that the relevant agency prepare an SBEIS if the proposed rule "will impose more than minor costs on businesses in an industry."[4] "Minor cost" is defined in RCW 19.85.020 as a cost per business that is less than 0.3 percent of annual revenue or income, or $100, whichever is greater, or one percent of annual payroll.[5]

The guidelines for preparing an SBEIS are included in RCW 19.85.040.[6] We also utilize the more specific guidance and resources provided by Washington State's Office for

[4] RCW 19.85.030 Agency Rules – Small Business economic impact statement reduction of costs imposed by rule. Accessed September 20, 2021 at: https://app.leg.wa.gov/RCW/default.aspx?cite=19.85.030.

[5] RCW 19.85.020 Definitions. Accessed September 20, 2021 at: https://app.leg.wa.gov/rcw/default.aspx?cite=19.85.020.

[6] RCW 19.85.040 Small business economic impact statement—Purpose—Contents. Accessed September 20, 2021 at: https://app.leg.wa.gov/RCW/default.aspx?cite=19.85.040.

Regulatory Innovation and Assistance (ORIA).[7] Per the SBEIS *Frequently Asked Questions* guidance, agencies are required to consider "costs imposed on businesses and costs associated with compliance with the proposed rules". [8] Agencies are not required under RCW 19.85 to consider indirect costs not associated with compliance with the rule.

[7] ORIA. 2021. Regulatory Fairness Act Support. Accessed September 20, 2021 at: https://www.oria.wa.gov/site/alias__oria/934/regulatory-fairness-act-support.aspx.

[8] WA Attorney General Office. 2021. Small Business Economic Impact Statements – Frequently Asked Questions. Accessed September 20, 2021 at: https://www.oria.wa.gov/Portals/_oria/VersionedDocuments/RFA/Regulatory_Fairness_Act/DRAFT_SBEIS_FAQ.pdf.

CHAPTER 2 | SMALL BUSINESS IMPACTS

This chapter describes our analysis of potential economic impacts of the proposed rule on small businesses in Washington State. First, we identify the number of small businesses affected and the minor cost thresholds for the affected industry. We then present information on the estimated costs of compliance for these small businesses and compare those costs with the minor cost thresholds. Next, we discuss how the proposed rule disproportionately affects small businesses and describe the strategies considered to mitigate these effects. We then describe how small businesses are involved in the rule-making process. Finally, we discuss the estimated impact on employment.

2.1 SMALL BUSINESSES AFFECTED

As of July 2021, there were 1,306 licensed marijuana producers and processers in the State of Washington.[9] Of those businesses, nine employ more than 50 individuals, indicating that 99.3 percent of the businesses in this industry are considered small (Exhibit 2-1).[10] Any licensed business producing marijuana flower and/or intermediate products for which existing regulations require testing would incur costs under the proposed rule. Licensed business that are not currently operating, or that produce only flower marked for extraction or end-products would not be affected by this rule.

"Minor cost" is defined in RCW 19.85.020 as a cost per business that is less than 0.3 percent of annual revenue or income or one hundred dollars, whichever is greater, or one percent of annual payroll. As revenue information is more readily available than payroll, the analysis calculates minor cost thresholds based on revenues of business entities in the affected industries. The minor cost threshold is $3,466 (2020$) per business within the industry, based on the average annual revenues reported for calendar years 2018 through 2020 (WSLCB 2021) and the number of licensed producers and/or processors as of August 2021. To evaluate the impacts of the rule on different types and sizes of businesses within the industry, later sections of this analysis further break down the industry into different groups of affected businesses, and presents minor cost thresholds for those businesses specifically.

[9] Email communications from WSLCB to IEc, August 24, 2021. Licensed businesses include holders of three license types – Producer, Processor, and Producer/Processor. This report refers to this group of businesses collectively as "producers and processors".

[10] Number of large businesses provided by the Employment Security Division (ESD) via email on September 20, 2021.

EXHIBIT 2-1. MINOR COST THRESHOLD FOR AFFECTED INDUSTRIES

TYPE OF BUSINESS[1]	# OF BUSINESSES IN WASHINGTON[2]	PERCENTAGE OF BUSINESSES CONSIDERED SMALL[3]	AVERAGE ANNUAL REVENUES (2020$)[4]	MINOR COST THRESHOLD = 0.3% AVERAGE ANNUAL REVENUES (2020$)
Cannabis Producer and/or Processor	1,306	99.3%	$1,155,374	$3,466

Notes:
1. Relevant North American Industry Classification System (NAICS) codes for this industry include the following:
   111998 – All Other Miscellaneous Crop Farming, including Marijuana Grown in an Open Field
   111419 – Other Food Crops Grown Under Cover, including Marijuana Grown Under Cover
   115112 – Soil Preparation, Planting, and Cultivating
   325411 – Medicinal and Botanical Manufacturing
   311812 – Commercial Bakeries
   311991 - Perishable Food Manufacturing
   424590 – Other Farm Product Raw Material Merchant Wholesalers, including Marijuana Merchant wholesalers
2. Represents the total number of cannabis producer, producer/processor, and processor licenses as of July 2021 (Email communications from WSLCB August 24, 2021).
3. Number of businesses with >50 employees of all producer/processor license holders (9) provided by the Employment Security Division (ESD) via email on September 20, 2021.
4. Average annual revenues for all licensees that reported revenues between 2018 and 2020, provided by WSLCB on October 22, 2021.

2.2 COST OF COMPLIANCE

As described in Section 1-2 and Exhibit 1-1, complying with the proposed rule requires that both marijuana flower not destined for extraction and intermediate cannabis products (i.e., marijuana mix, concentrates, and infused cooking oil or fat in solid form) be tested for pesticides, in addition to the existing I-502 panel testing protocols. It further requires an increase in the number of one-gram samples that must be submitted for testing for amounts of flower up to five pounds. The proposed rule does not require heavy metals testing for marijuana flower or intermediate product. However, the proposed provision that WSLCB may conduct random or investigation-driven heavy metals testing may result in costs to the extent that license holders would choose to conduct heavy metals testing voluntarily to ensure compliance with existing heavy metals limits. This analysis quantifies these costs that may result from this rulemaking.

Other components of the proposed rule, including the reduction in the number of one-gram samples required to be submitted for I-502 testing for amounts of marijuana flower exceeding 10 pounds, and increases in the amount of a single strain of marijuana flower that may be tested with a single panel of I-502 tests, may ultimately reduce certain costs. The potential effects of these rule provisions are discussed qualitatively in the sections that follow.

This analysis relies on testing and revenue data reported by license holders to WSLCB's Leaf Data Systems,[11] information gathered through interviews conducted with affected businesses between September 3 and September 24, 2021 and the result of an industry survey implemented by WSLCB in September 2021 to describe and estimate the potential costs of the proposed rule.[12] Attachment A provides a list of individuals interviewed in the course of this analysis, and Attachment B includes the interview guide used in those discussions. Questions posed in the industry survey implemented by WSLCB to solicit information for this SBEIS appears in Attachment C.

2.2.1 ADDITION OF PESTICIDE TESTING

For producers and processors, each marijuana flower lot not marked for extraction, or batch of intermediate product (e.g., concentrate, extract, or oil) would require pesticide testing; this is not currently required within the existing I-502 panel of tests. The proposed rule does not alter the existing regulations at WAC 314-55-108, which dictate the types of pesticides that can be used in marijuana production or the "action levels" above which the marijuana lot or batch from which the sample was drawn would fail quality assurance testing. Given that marijuana producers are already subject to these limitations on the types and amount of pesticides that can be used in production, we do not anticipate that compliance with the pesticide screening requirement would require changes in growing operations to comply with these limits.[13]

During our interviews, producers and processors indicated that they would be unable to pass additional testing costs on to retailers in the form of higher prices and remain competitive.[14] However, of the 117 businesses that responded to the WSLCB survey of all license holders, 39 (33 percent) indicated they expected to pass some or all of their testing costs on to the buyers of their products.[15] This analysis assumes producers and processors bear the full cost of the testing and therefore that the testing requirements have a direct effect on operational costs. If producers and processors are able to pass on the costs of testing by increasing prices of product, some or all of this cost may be recouped.

Labs currently charge $70 to $150 per sample for pesticides testing.[16] Interviewees identified costs for pesticides tests alone ranging from as low as $20 to as high as $350,

[11] Leaf Data Systems is the traceability system used by WSLCB. It includes data submitted by license holders to allow WSLCB to track cannabis from point-of-origin to sale (WSLCB 2021).

[12] Section 2.6 provides a more detailed description of the outreach to affected businesses conducted to support this analysis.

[13] Results of interviews conducted with affected businesses between September 3 and September 24, 2021. No interviewees identified that the addition of pesticides testing would require any change in growing practices (e.g., types or amount of pesticides used in production).

[14] Based on interviews with a subset of producer/processors. Significant additional research would be required to confirm or refute this assumption. For example, research might include the identification or development of elasticity estimates for this evolving market, as well as information about current profit margins in this industry. This information, if available, could be used to determine which actors (producers or consumers) are most likely to bear the costs of the rule changes.

[15] Results of WSLCB survey of all marijuana producer and processor license holders conducted in September 2021.

[16] Online research from testing labs websites conducted in October 2021.

though most estimates were between $60 and $150.[17] Based on interviews with a subset of producers and processors and prices available from labs, we estimate the potential range of testing costs per sample to add pesticides screening; these costs are estimated to range from $60 to $150 per test.

Average Annual Costs per Business of Pesticides Testing

Quantifying per business annual costs of pesticides testing (as well as lost revenues associated with flower diverted for testing, discussed later) for producers and processors requires information on the number of lots and/or batches of flowers and intermediate products annually. It is difficult to generalize the average number of lots and batches tested, as business models vary greatly. For example, the number of lots or batches tested on an annual basis may vary based on factors such as the size of an operation or harvest, number of strains being grown by a single business entity, and testing choices in terms of batch/lot size (e.g., small producers may choose to test only once they have a five pound lot, or may test smaller lots of two to three pounds).

During WSLCB outreach to the industry over the course of rule development, in industry interviews, and through the WSCLB-led survey, affected license-holders stressed the importance of considering the wide diversity of businesses within the industry, and recognizing that not all businesses would be affected similarly. This analysis distinguishes three types of businesses that would experience pesticide-testing costs as a result of this rule:

- **Businesses testing flowers only.** These businesses would incur costs associated with pesticide testing for flowers, and lost revenue associated with increasing the amount of flower that must be diverted to testing.
- **Businesses testing intermediate products only**. These businesses would incur costs associated with pesticide testing for intermediate products.
- **Businesses testing both flowers and intermediate products.** These businesses would incur costs associated with pesticide testing for flowers, lost revenue associated with increasing the amount of flower that must be diverted to testing, and the cost of pesticide testing for intermediate products.

Within each of these groups, the cost per business is driven by the number of test panels on flower and/or intermediate products that business runs annually. The pesticide testing requirement would generate the need to integrate an additional test to each panel each time a business undertakes its existing testing requirements, as described in Exhibit 1-1 and in Section 1-2. That is, it adds a test to the existing panel of required tests. We therefore find that the requirement would not result in additional instances of testing within an average year but instead the numbers of tests undertaken with each testing instance. Given this, we assume businesses would continue to test product at the same frequency following implementation of the rule as they have in recent years. Specifically,

[17] Results of interviews conducted with affected businesses between September 3 and September 24, 2021.

we estimate the average annual frequency of testing for these businesses over the last three years (2018 through 2020).

WSLCB's Leaf Data Systems maintains information on the total number of flower and/or intermediate product tests implemented by each license holder annually between 2018 and 2021. Of the 1,305 license holders identified previously, 1,159 reported instances of required testing between 2018 and 2021. Because 2021 represents an incomplete year of data, we remove businesses that reported testing only in 2021 from the analysis (35 businesses, bins A, G, and M in Exhibit 2-2). Based upon the average number of flower tests (for businesses testing flower only), intermediate tests (for businesses testing only intermediate product) or total tests (for businesses testing both flowers and intermediate products) conducted by each business between 2018 and 2020, we distribute these businesses into bins based on how frequently they submit flower or intermediate products for testing (Exhibit 2-2). Within each bin, we further identify the median number of tests run across all businesses in each bin, which is used as the basis for estimating costs to each business.[18]

EXHIBIT 2-2. ANNUAL NUMBERS OF FLOWER AND/OR INTERMEDIATE PRODUCT TESTS RUN BY PRODUCERS AND PROCESSORS, 2018-2020

BIN	NUMBER OF BUSINESSES IN BIN	PERCENTILE	AVERAGE ANNUAL NUMBER OF TESTS PER BUSINESS (LOW END)	AVERAGE ANNUAL NUMBER OF TESTS PER BUSINESS (HIGH END)	MEDIAN NUMBER OF AVERAGE ANNUAL TESTS ACROSS BUSINESSES
BUSINESSES TESTING FLOWER ONLY (224 BUSINESSES)					
A[1]	14	0-1st	-	-	-
B	45	1st-25th	0.01	1.00	0.67
C	55	26th-50th	1.01	4.00	2.33
D	54	51st-75th	4.01	20.42	10.00
E	33	76th-90th	20.43	64.47	38.00
F	23	91th-100th	64.48	1,305.00	120.00
BUSINESSES TESTING INTERMEDIATE PRODUCTS ONLY (235 BUSINESSES)					
G[1]	12	0-1st	-	-	-
H	50	1st-25th	0.01	2.00	0.67
I	56	26th-50th	2.01	16.67	7.50
J	58	51st-75th	16.71	108.17	43.50
K	35	76th-90th	108.21	232.40	157.00
L	24	91st-100th	232.41	2,870.33	408.33

[18] Due to the presence of outliers within our data, particularly at the upper ends of the testing bins, we identify the median rather than the average as a better central tendency of the annual testing frequencies for businesses within each bin.

BIN	NUMBER OF BUSINESSES IN BIN	PERCENTILE	AVERAGE ANNUAL NUMBER OF TESTS PER BUSINESS (LOW END)	AVERAGE ANNUAL NUMBER OF TESTS PER BUSINESS (HIGH END)	MEDIAN NUMBER OF AVERAGE ANNUAL TESTS ACROSS BUSINESSES
BUSINESSES TESTING BOTH FLOWER AND INTERMEDIATE PRODUCTS (700 BUSINESSES)					
M[1]	9	0-1st	-	-	-
N	166	1st-25th	0.01	15.58	3.00
O	175	26th-50th	15.61	62.00	17.67
P	176	51st-75th	62.10	198.67	53.17
Q	104	76th-90th	198.71	497.13	148.00
R	70	91st-100th	497.14	6,492.33	351.00

Source: Annual number of tests for flower and/or intermediate products by license holder provided from Leaf Data Systems by WSLCB on October 22, 2021.

Note:

1. Businesses identified as having no tests were included in the provided data as reporting testing in 2021 but did not report testing in 2018-2020. Because 2021 represented an incomplete year of data, these businesses and their tests are excluded from the calculated averages.

For each of the bins described in Exhibit 2-2, we calculate the total costs of pesticide testing based on the median number of annual tests run across all businesses in that bin to estimate the costs of rule compliance.[19] We present these estimates in Exhibits 2-3 through 2-5. The costs of pesticide testing that would be incurred by affected businesses varies widely across the identified bins of businesses but is directly correlated with the number of tests a business conducts each year. Businesses with larger numbers of flower and intermediate product tests conducted annually would incur greater costs associated with pesticides testing. Attachment D provides a data dictionary for WSLCB use that documents the source of each data element used in the small business economic impact statement.

The cost estimates in Exhibits 2-3 through 2-5 are subject the following assumptions:

1. We assume the future rate of I-502 panel testing for flowers and/or intermediate product is similar to the average rate of testing over the years 2018-2020. If the rate of testing increases or decreases in the future, this analysis may under- or over-estimate costs associated with pesticides testing. However, we note that increased testing rates are likely also correlated with increased revenue (as they may be indicative of increased production from the business). Therefore, this assumption does not necessarily affect our estimated cost impact as a fraction of revenues.

[19] We rely on the median, rather than average number of tests run per businesses in each bin as more representative of the data which are not evenly distributed across the range, but include notable outliers at the higher end of each range.

2. Some producer/processors are already testing some portion of their products for pesticides for various reasons (e.g., already producing medically compliant products, consumer/retailer demand, and interest in clean products).[20] Of the 78 producer/processors who responded to a survey question asking if they presently conduct any pesticide testing on their flowers, 42 (54 percent) indicated that they do.[21] Five of the seven processors (71 percent) responding to the same question regarding intermediate products indicated they do test some portion of their products for pesticides. However, businesses interviewed that do currently conduct pesticide testing on their flower crops or other intermediate products indicated that testing is currently done less frequently (e.g., multiple strains per test, or intermittent research and development testing) compared to the frequency of the current I-502 panel of tests and with which pesticide testing would be done under the proposed rule (i.e., on a per-batch or per-lot by strain basis).[22] To the extent producers are already incurring pesticide testing costs for some of the tested flower lots and/or intermediate product batches identified, this estimate overstates the incremental compliance costs of the proposed rule on those businesses.

3. Prices that would be charged for pesticide testing once this test is required are uncertain. As more labs begin offering testing, pricing could become more competitive. Interviews previously conducted with testing labs indicate that labs had recently cut their prices for testing for the suite of quality assurance tests currently required under WAC 314-55-102.[23]

4. This estimate does not account for the potential offsetting benefit of businesses increasing the amount of flower that can be tested using a single pesticide test. We assume that producers and processors would continue test five-pound lots and that each five-pound lot tested would now also be tested for pesticides. To the extent that five-pound amounts currently tested individually may instead be consolidated into larger amounts that can be tested with a single pesticide test, fewer pesticide tests may be needed in the future, and the analysis thus overstates the cost of pesticide testing. Information collected during industry interviews and through the LCB-implemented survey indicate that many surveyed businesses would likely take advantage of testing higher amounts at once (e.g., ten pounds), which would reduce the number of pesticides tests required. The potential for businesses to move to testing larger amounts of flower in a single panel of I-502 tests is discussed in greater detail in Section 2.2.4.

[20] Results of interviews conducted with affected businesses between September 3 and September 24, 2021.

[21] Results of WSLCB survey of all marijuana producer and processor license holders conducted in September 2021.

[22] Interviews with Industry Representatives on September 3, 2021; September 13, 2021; September 15, 2021; and September 17,2021.

[23] Interviews conducted by IEc with cannabis testing labs in April 2019.

EXHIBIT 2-3. ESTIMATED ANNUAL COSTS OF COMPLIANCE FOR BUSINESSES TESTING FLOWERS ONLY (2020$)

BIN	AVERAGE ANNUAL REVENUES[3]	MINOR COST THRESHOLD	MEDIAN AVERAGE NUMBER OF ANNUAL TESTS ACROSS BUSINESSES	COST OF PESTICIDE TESTING (LOW END TESTING COST - $60)	COST OF PESTICIDE TESTING (HIGH END TESTING COST - $150)	LOST REVENUE ASSOCIATED WITH PRODUCT DIVERTED TO TESTING[2]	TOTAL COST (LOW END TESTING COST)	TOTAL COST (HIGH END TESTING COST)	COST AS A PROPORTION OF REVENUE (LOW)	COST AS A PROPORTION OF REVENUE (HIGH)
A[1]	$213,141	$639	-	$-	$-	$-	**$-**	**$-**	0.0%	0.0%
B	$95,558	$287	0.67	$40	$100	$8	**$48**	**$108**	0.1%	0.1%
C	$203,563	$611	2.33	$140	$350	$28	**$168**	**$378**	0.1%	0.2%
D	$112,403	$337	10.00	$600	$1,500	$120	**$720**	**$1,620**	0.6%	1.5%
E	$531,573	$1,595	38.00	$2,280	$5,700	$456	**$2,736**	**$6,156**	0.5%	1.2%
F	$378,294	$1,135	120.00	$7,200	$18,000	$1,440	**$8,640**	**$19,440**	2.3%	5.2%

Sources:
Average annual revenue data extracted from Leaf Data System by LCB, October 2021.
Annual number of tests for flower and/or intermediate products by license holder from 2018 through 2020 provided from Leaf System by WSLCB on October 22, 2021.
Cost of pesticide test based on interviews with producers and processors, September 2021; results of industry survey conducted by WSLCB in September/October 2021; and online research into testing prices posted on laboratory websites (October 2021).
Value of 1 gram of marijuana flower based on interviews with producers and processors, September 2021; and results of industry survey conducted by WSLCB in September/October 2021.

Notes:

1. Businesses identified as having no tests were included in the provided data as reporting testing in 2021 but did not report testing in 2018-2020. Because 2021 represented an incomplete year of data, these businesses and their tests are excluded from the calculated averages.
2. Lost revenue associated with product diverted to testing is equal to the total number of tests*the per gram value of the flower ($3)*the number of additional grams diverted per test lot/amount (4).
3. The average annual revenues reported by licensees are not necessarily linearly correlated with the number of tests run by the business. This may be due to a variety of factors including businesses collecting revenues on flower marked for extraction or end-products that are not required to be tested for the I-502 panel (i.e., that are not associated with tests reported in these data), flower and/or intermediate products being tested and sold in different calendar years, licenses that have moved locations resulting in testing being reported under one license number, but revenues being reported under another), splitting and merging of businesses and operations, and data reporting errors (Written communication from WSLCB to IEc on October 21, 2021).

Gray shading indicates rule cost estimates that exceed the minor cost threshold for that bin of businesses.

EXHIBIT 2-4. ESTIMATED ANNUAL COSTS OF COMPLIANCE FOR BUSINESSES TESTING INTERMEDIATE PRODUCTS ONLY (2020$)

BIN	AVERAGE ANNUAL REVENUES	MINOR COST THRESHOLD	MEDIAN AVERAGE NUMBER OF ANNUAL TESTS ACROSS BUSINESSES	COST OF PESTICIDE TESTING (LOW END TESTING COST - $60)	COST OF PESTICIDE TESTING (HIGH END TESTING COST - $150)	COST AS A PROPORTION OF REVENUE (LOW)	COST AS A PROPORTION OF REVENUE (HIGH)
G[1]	$75,117	$225	-	**$-**	**$-**	0.0%	0.0%
H	$179,612	$539	0.67	**$40**	**$101**	0.0%	0.1%
I	$299,963	$900	7.50	**$450**	**$1,125**	0.2%	0.4%
J	$832,412	$2,497	43.50	**$2,610**	**$6,525**	0.3%	0.8%
K	$2,003,151	$6,009	157.00	**$9,420**	**$23,550**	0.5%	1.2%
L	$6,350,122	$19,050	408.33	**$24,500**	**$61,250**	0.4%	1.0%

Sources:
Average annual revenue data extracted from Leaf Data System by LCB, October 2021.
Annual number of tests for flower and/or intermediate products by license holder from 2018 through 2020 provided from Leaf System by WSLCB on October 22, 2021.
Cost of pesticide test based on interviews with producers and processors, September 2021; results of industry survey conducted by WSLCB in September/October 2021; and online research into testing prices posted on laboratory websites (October 2021).

Note:
1. Businesses identified as having no tests were included in the provided data as reporting testing in 2021 but did not report testing in 2018-2020. Because 2021 represented an incomplete year of data, these businesses and their tests are excluded from the calculated averages.

Gray shading indicates rule cost estimates that exceed the minor cost threshold for that bin of businesses.

EXHIBIT 2-5. ESTIMATED ANNUAL COSTS OF COMPLIANCE FOR BUSINESSES TESTING BOTH FLOWERS AND INTERMEDIATE PRODUCTS (2020$)

BIN	AVERAGE ANNUAL REVENUES[3]	MINOR COST THRESHOLD	MEDIAN AVERAGE NUMBER OF ANNUAL TESTS ACROSS BUSINESSES	COST OF PESTICIDE TESTING (LOW END TESTING COST - $60)	COST OF PESTICIDE TESTING (HIGH END TESTING COST - $150)	MEDIAN AVERAGE NUMBER OF ANNUAL FLOWER TESTS ACROSS BUSINESSES	LOST REVENUE ASSOCIATED WITH PRODUCT DIVERTED TO TESTING[2]	TOTAL COST (LOW END TESTING COST)	TOTAL COST (HIGH END TESTING COST)	COST AS A PROPORTION OF REVENUE (LOW)	COST AS A PROPORTION OF REVENUE (HIGH)
M[1]	$180,776	$542	-	$-	$-	-	$-	**$-**	**$-**	0.0%	0.0%
N	$713,018	$2,139	6.70	$402	$1,005	3.00	$36	**$438**	**$1,041**	0.1%	0.1%
O	$260,983	$783	31.30	$1,878	$4,695	17.67	$212	**$2,090**	**$4,907**	0.8%	1.9%
P	$586,218	$1,759	107.20	$6,432	$16,080	53.17	$638	**$7,070**	**$16,718**	1.2%	2.9%
Q	$1,617,744	$4,853	295.00	$17,700	$44,250	148.00	$1,776	**$19,476**	**$46,026**	1.2%	2.9%
R	$5,531,265	$16,594	745.70	$44,742	$111,855	351.00	$4,212	**$48,954**	**$116,067**	0.9%	2.1%

Sources:
Average annual revenue data extracted from Leaf Data System by LCB, October 2021.
Annual number of tests for flower and/or intermediate products by license holder from 2018 through 2020 provided from Leaf System by WSLCB on October 22, 2021.
Cost of pesticide test based on interviews with producers and processors, September 2021; results of industry survey conducted by WSLCB in September/October 2021; and online research into testing prices posted on laboratory websites (October 2021).
Value of 1 gram of marijuana flower based on interviews with producers and processors, September 2021; and results of industry survey conducted by WSLCB in September/October 2021.

Notes:

1. Businesses identified as having no tests were included in the provided data as reporting testing in 2021 but did not report testing in 2018-2020. Because 2021 represented an incomplete year of data, these businesses and their tests are excluded from the calculated averages.
2. Lost revenue associated with product diverted to testing is equal to the total number of tests*the per gram value of the flower ($3)*the number of additional grams diverted per test lot/amount (4).
3. The average annual revenues reported by licensees are not necessarily linearly correlated with the number of tests run by the business. This may be due to a variety of factors including businesses collecting revenues on flower marked for extraction or end-products that are not required to be tested for the I-502 panel (i.e., that are not associated with tests reported in these data), flower and/or intermediate products being tested and sold in different calendar years, licenses that have moved locations resulting in testing being reported under one license number, but revenues being reported under another), splitting and merging of businesses and operations, and data reporting errors (Written communication from WSLCB to IEc on October 21, 2021).

Gray shading indicates rule cost estimates that exceed the minor cost threshold for that bin of businesses.

2.2.2 CHANGE IN NUMBER OF ONE-GRAM FLOWER SAMPLES REQUIRED

For amounts of flower five pounds or less, the number of one-gram samples required to be submitted for testing per I-502 panel of tests would increase from four grams to eight grams to ensure the lab has sufficient material to conduct the additional pesticide test, resulting in lost revenues. Marijuana flower that is used as a testing sample is not available for sale and therefore results in a loss in revenue. Interviewees identified a value per gram of flower range from $2.50 to $6.00 (though the high-end estimate was a retail price inclusive of packaging). This range generally aligns with survey responses to this question. Based on the information provided in industry interviews and through the survey, we assume an average per gram value of $3.00 for each gram of marijuana flower diverted for testing.

Average Annual Lost Revenues per Business

Within each of the bins previously identified (Exhibit 2-2), the revenues lost per business is driven by the number of tests on flower that business runs annually. The rule would require that for each five-pound amount of marijuana flower subject to testing, a business would need to submit eight, one-gram samples as opposed to the four, one-gram samples currently required. As described in Section 2.2.1, we assume businesses would continue to test product at the same frequency following implementation of the rule as they have in recent years.

We assume that for each instance of testing a business conducts on flowers, it must submit an additional four grams of flower to the lab. For each of the bins described in Exhibit 2-2, we calculate the total loss of revenue in the form of diverted product (i.e., flower that is provided to a lab for testing and therefore cannot be sold by the producer) using the information on the number of tests run on flowers by each business annually, and the average value of a gram of marijuana flower.[24] We present these estimates of lost revenue in Exhibits 2-3 and 2-5. Cost resulting from this rule element again vary widely across the businesses. These costs are not incurred by businesses that test only intermediate product, and are highest for those businesses with the highest frequencies of flower testing.

The estimates of lost revenue associated with flower diverted to testing are subject the following assumptions:

1. We assume the future rate of I-502 panel testing on flower is similar to the average rate of testing over the years 2018-2020. If the rate of flower testing increases or decreases in the future, this analysis may under- or over-estimate the amount of flower that would be diverted to testing and thus the lost revenues associated with that flower.
2. This estimate does not account for the potential offsetting benefit of businesses increasing the amount of flower that can be tested using a single I-502 panel of

[24] We rely on the median, rather than average number of tests run per businesses in each bin as more representative of the data which are not evenly distributed across the range, but include notable outliers at the higher end of each range.

tests. We assume that producers and processors would continue to test five-pound lots of flower, and that for each five-pound amount of flower tested, four additional grams of flower is diverted to testing. To the extent that five-pound amounts that the analysis assumes would be tested individually may instead be consolidated into larger amounts for testing, the amount of diverted flower for testing would be less than what is estimated here. Under the proposed rule, any testing instance on amounts of flower exceeding five pounds would not require an increase in the number of one-gram samples required to be diverted to testing, and would not result in lost revenues.

2.2.3 ADDITION OF RANDOM OR INVESTIGATION-DRIVEN HEAVY METALS SCREENING

Although screening for heavy metals would not be required under the proposed rule, WSLCB may conduct random or investigation-driven heavy metals screening to ensure compliance with existing heavy metals limits. As a result, we consider whether businesses are likely to proactively screen their flower or intermediate products for heavy metals as a business decision to ensure it would meet existing heavy metal screening criteria. If triggered by this rulemaking, the costs of this additional heavy metals testing are relevant to the SBEIS.

The existing regulations include heavy metal limits for arsenic, cadmium, lead, and mercury that may not be exceeded in any marijuana product, and these limits are unchanged by the proposed rule. Further, existing regulations require that upon request by WSLCB or its designee, licensees must provide samples of marijuana products or other related materials to be screened for pesticides, chemical residues, unsafe levels of heavy metals, or other quality assurance tests as deemed necessary by WSLCB. According to WSCLB, the primary difference between the proposed rule and existing regulation is that current heavy metals spot testing is primarily compliance or investigation-driven, while the proposed rule would include random spot-testing for heavy metals that is not driven by investigations.[25]

Several industry representatives interviewed for this analysis suggested that they do some extent of heavy metals testing on their product, although it is not required by existing regulations.[26] Based on the results of the industry survey, of the 74 producers and producer processors who responded to a question asking whether they currently conduct some extent of heavy metals testing, 26 percent answered in the affirmative.[27] Interviewees described that industry participants are generally aware that certain types of growing and/or processing practices are more closely associated with the potential for heavy metals contamination. They indicated that businesses engaged in those activities are already conducting some extent of heavy metals testing to ensure compliance with existing thresholds, while those not engaged in those types of activities would not

[25] Personal communication with WSLCB on September 27, 2021.

[26] Results of interviews conducted with affected businesses between September 3 and September 24, 2021.

[27] Results of WSLCB survey of all marijuana producer and processor license holders conducted in September 2021.

anticipate a concern with heavy metals contamination and would not have a reason to test for them regularly.[28] The majority of industry representatives interviewed for this analysis who reported conducting some extent of heavy metals testing described that testing might be done once or only very occasionally to confirm expectations that metals are not present in their products, although at least one indicated they test all of their intermediate products.[29] If a confirmatory test were done and has confirmed their flower or products are clean of them, they would not have cause to continue to test those flowers or products. Finally, they suggested that a rule laying out the option for heavy metals spot testing by WSLCB would not compel them to change the frequency of heavy metals testing they do on their products.[30] Of those that did not report current heavy metals testing, only one suggested that the rule may compel them to do some heavy metals testing on their products, but tests would only be run at most once per year (i.e., far below the frequency required for other I-502 tests).[31] This finding is corroborated by the survey results identifying that of the 56 producers and producer processors who do not currently conduct heavy metals testing, 53 percent would not choose to do any heavy metals testing, while 42 percent would test some, but not all of their products.[32] Of the 23 survey respondents that suggested the proposed rule would compel them to test some of their products, based on information provided by industry interviewees, we expect the rate of that testing to be very low (i.e, once per year or less).

Altogether, this analysis finds that the proposed rule is unlikely to result in substantial new costs for heavy metals testing to individual businesses. For the small subset of businesses that may conduct new heavy metals tests as a result of the rule, the anticipated range of costs for an individual heavy metals test is $70 to $200, and these costs would be incurred once annually or less.[33]

2.2.4 INCREASE IN MAXIMUM AMOUNT OF MARIJUANA FLOWER THAT MAY BE REPRESENTED BY A SINGLE I-502 PANEL OF TESTS

Under existing regulations, producers must submit samples and pay for a panel of I-502 tests for every five-pound lot of flower produced. The proposed rule would allow for a single strain of flower in amounts up to 50 pounds to be tested using a single panel of tests. For example, a producer currently submitting three, five-pound lots of a single strain of flower for testing at once must currently pay a laboratory for three panels of I-

[28] Results of interviews conducted with affected businesses between September 3 and September 24, 2021.

[29] Interview with an Industry Representative on September 24, 2021.

[30] Results of interviews conducted with affected businesses between September 3 and September 24, 2021.

[31] Interview with an Industry Representative on September 24, 2021.

[32] Results of WSLCB survey of all marijuana producer and processor license holders conducted in September 2021.

[33] Interviewees identified a cost range for heavy metals testing of $70 to $200 per test, and online research of cannabis testing labs indicated a price of $70 per test offered by at least one lab. The majority of survey respondents identified a cost of less than $100, although two indicated a cost of over $400. Based on these data, we identify a range of costs for heavy metals testing of between $70 and $200.

502 tests (one for each lot). Under the proposed rule, this producer would pay for a single panel of I-502 tests that could represent the entire 15-pound amount of flower.

This proposed provision is not expected to result in new costs to businesses. Rather, to the extent that producers are growing and harvesting sufficient amounts of single strains at a time (i.e., greater than five pounds), or can modify growing practices to do so, costs associated with existing I-502 testing requirements are expected to decrease. The extent to which costs would change as a result of this rule provision differs significantly across businesses. Quantifying the changes in costs associated with increasing testing amounts would require detailed information on individual growing practices, such as how many strains are grown, and what amount can be harvested and prepared for testing at once. These data were not available.

Although data are not available to quantify the changes in costs that would result from this rule element, information collected during interviews and through the survey provide insight into the potential effect of this proposed rule requirement. The businesses interviewed expected to see the greatest degree of reduced testing costs are those that can harvest larger amounts of a single strain of flower. Accordingly, several interviewees suggested it would be the larger, higher volume businesses that would benefit the most from this rule provision.[34] Nonetheless, most interviewees, including many smaller businesses, concluded that it would be possible for them to take advantage of testing high amounts at once (e.g., ten pounds), which would reduce their costs for currently required tests.[35] Further, two interviewees noted that existing growing operations were designed around the five-pound lot testing amount, and that businesses were likely to adapt growing operations around the new testing amounts to take advantage of potential testing costs savings.[36] Of the 43 survey responses to the open-ended question "Do you have any other thoughts or comments regarding the potential costs of changes to the recreational cannabis testing requirements that you would like us to consider in developing the SBEIS?", nine respondents (21 percent) suggested they wanted and could take advantage of larger lot sizes.[37]

2.2.5 LABOR/ADMINISTRATIVE COSTS

Administrative costs associated with rule compliance are considered a cost of the rule and should be addressed within an SBEIS. The potential administrative costs of the proposed rule include the labor and administrative time associated with preparing samples to be transferred to a lab for testing. According to interviewees, the administrative and labor costs associated with drawing and preparing samples for transfer are primarily driven by the number of times a shipment of samples must be sent to a lab.[38] These costs include

[34] Interviews with Industry Representatives on September 13, 2021; September 21, 2021; September 15, 2021; and , September 22, 2021.

[35] Results of interviews conducted with affected businesses between September 3 and September 24, 2021.

[36] Interview with Industry Representatives on September 21, 2021; and September 23, 2021.

[37] Results of WSLCB survey of all marijuana producer and processor license holders conducted in September 2021.

[38] Interview with an Industry Representative, September 24, 2021.

cleaning and preparation of the equipment used to collect samples, and paperwork associated with documenting the samples, preparing chain of custody and other documentation, etc. At least one interviewee noted that an increase in the number of one-gram samples prepared for a single shipment does not meaningfully change their administrative costs.[39,40] The proposed rule would hold consistent or potentially decrease the number of sample shipments sent by a business each year (due to the ability to test larger amounts of marijuana flower in a single test/shipment). As such, the rule is not expected to result in increased administrative costs to the affected businesses.

2.2.6 TOTAL COSTS

Exhibits 2-3 through 2-5 present the total quantified costs of the proposed rule, which include the costs of pesticide testing and loss of revenue in the form of diverted product. Rule costs vary substantially across business types, and between the identified groups of businesses within each business type, with costs increasing as the frequency of testing increases. Exhibit 2-6 presents the weighted average anticipated total costs of the rule by business type, and across all businesses.

Businesses testing flower only may incur costs as low as $48 (for the 45 businesses with a testing rate for flowers of less than one annually, assuming the lower estimated pesticide test cost of $60) to as high as $19,440 (for 23 businesses with a flower testing rate of 120 annually and a pesticide testing cost of $150). On average, costs to these businesses are estimated to be between $1,616 and $3,635. Costs to businesses testing intermediate products only may be as low as $40 annually (for the 50 businesses with an intermediate product testing rates of less than one annually) to as high as $61,250 annually (for the 24 businesses with a testing rate of 408 intermediate product tests annually). Across all businesses testing intermediate products only, the weighted average range of estimated costs of the rule is $4,916 to $12,290. Finally, for businesses testing both flower and intermediate products, rule costs may be as low as $438 (for the 166 businesses with a total testing rate of less than seven annually) to as high as $116,067 (for the 70 businesses with a testing rate of 745 tests annually). The weighted average costs of the rule for businesses testing both flower and intermediate product is $10,326 to $24,436.

[39] Additionally, under the proposed rule, the number of one-gram samples required per pound of marijuana flower only increases for amounts of flower under five pounds. For amounts of flower over five pounds, the number of one-gram samples required per pound of flower would decrease.

[40] Interview with an Industry Representative, September 24, 2021.

EXHIBIT 2-6. WEIGHTED AVERAGE ANNUAL RULE COSTS, REVENUES, AND COSTS AS A PERCENTAGE OF REVENUES (2020$)

BUSINESS TYPE	WEIGHTED AVERAGE ANNUAL REVENUES	WEIGHTED AVERAGE ANNUAL TOTAL COSTS (LOW)	WEIGHTED AVERAGE ANNUAL TOTAL COSTS (HIGH)	COST AS PERCENT OF REVENUE (LOW)	COST AS PERCENT OF REVENUE (HIGH)
Testing Flowers Only	$227,660	$1,616	$3,635	0.7%	1.6%
Testing Intermediate Product Only	$1,329,917	$4,916	$12,290	0.4%	0.9%
Testing Flowers and Intermediate Product	$1,190,508	$10,326	$24,436	0.9%	2.1%
All Businesses	**$1,038,275**	**$7,625**	**$18,140**	**0.7%**	**1.7%**

Sources:
Average annual revenue data extracted from Leaf Data System by LCB, October 2021.
Annual number of tests for flower and/or intermediate products by license holder from 2018 through 2020 provided from Leaf System by WSLCB on October 22, 2021.
Cost of pesticide test based on interviews with producers and processors, September 2021; results of industry survey conducted by WSLCB in September/October 2021; and online research into testing prices posted on laboratory websites (October 2021).
Value of 1 gram of marijuana flower based on interviews with producers and processors, September 2021; and results of industry survey conducted by WSLCB in September/October 2021.

2.3 ASSESSMENT OF MINOR COST

As shown in Exhibits 2-3 through 2-5, given the minor cost thresholds for the groups of businesses considered in this analysis and the estimated costs of compliance, this rule is likely to impose more than minor costs on the majority of the businesses in the industry (costs exceeding the minor cost threshold are shaded in gray in each exhibit). For businesses testing only flower, the weighted average annual costs of the rule as a percentage of average revenue are estimated to be between 0.7 percent and 1.6 percent, exceeding the minor cost threshold of 0.3 percent. For the 110 businesses conducting an average of ten or more flower tests annually (52 percent of the 210 businesses in this group that reported tests in 2018 to 2020), rule costs are estimated to be more than minor. For businesses testing intermediate products only, rule costs are estimated to range from 0.02 percent to 1.2 percent of revenues, with a weighted average annual cost of the rule as a percentage of average revenue between 0.4 percent and 0.9 percent, exceeding the minor cost threshold. Of the 223 businesses in this group, the 173 businesses (78 percent) that are expected to test seven or more batches of product annually on average would incur more than minor costs. Producer/Processor businesses that test both flower and intermediate products may anticipate costs ranging from 0.1 percent to 2.9 percent of annual revenues, with a weighted average range across those businesses of 0.9 percent to 2.1 percent (exceeding the minor cost threshold). Of the total number of businesses in this group (691), 525 of those businesses (76 percent) would incur more than minor costs.

Altogether, 808 businesses (72 percent) would experience more than minor costs as a result of the proposed rule. However, it is important to note that the ability for license holders to test larger amounts of flower with a single panel of 502 tests and a single pesticide test would reduce these costs.

2.4 DISPROPORTIONATE ECONOMIC IMPACT ANALYSIS

When proposed rule changes cause more than minor costs to small businesses, the RFA (RCW 19.85.040) requires an analysis that compares the cost of compliance for small business with the cost of compliance for the ten percent of businesses that are the largest businesses required to comply with the proposed rules to determine whether the costs are considered disproportionate.[41] Over 99 percent of the regulated businesses in this industry are small. As a result, the rule is found to disproportionately impact small businesses, and this SBEIS accordingly identifies and documents cost mitigation strategies.

2.5 COST MITIGATION STRATEGIES

RCW 19.85.030 requires that, when a rule is expected to disproportionately impact small businesses, the agency consider several methods for reducing the impact of the rule on small businesses. The proposed rule itself includes several provisions that are intended to reduce the compliance costs for small businesses. These provisions are described in Exhibit 2-7.

EXHIBIT 2-7. RULE PROVISIONS DESIGNED TO REDUCE RULE COSTS

RULE PROVISION	DESCRIPTION	MECHANISM OF COST REDUCTION
Addition of random or investigation-driven heavy metals screening.	WSLCB may conduct investigation-driven or random spot testing of flower and intermediate product for heavy metals.	Businesses do not have to incur the costs of heavy metals testing on all amounts of flower or batches of intermediate product.
Increase in maximum amount of marijuana flower that may be represented by a single I-502 panel of tests.	Increasing the amount of flower that can be tested using a single I-502 test panel from one test panel per five-pound lot to a single test panel per amounts up to 50 pounds.	Businesses that are able to prepare larger quantities of flower for testing can reduce the number of pesticides tests required under the proposed rule, as well as reduce the number of I-502 test panels currently required, which reduces their testing costs.
Change in number of one-gram flower samples required.	For amounts of flower greater than five pounds, reducing the number of one-	On a per pound basis, reduces the amount of flower diverted to testing, instead allowing that flower to be sold, and reducing

[41] The RFA provides several options for comparing costs, including: (a) Cost per employee; (b) Cost per hour of labor; (c) Cost per one hundred dollars of sales (RCW 19.85.040(1)). In the absence of sufficient data to calculate disproportionate impacts, an agency whose rule imposes more than minor costs must mitigate the costs to small businesses, where legal and feasible, as defined in this chapter (RCW 19.85.030(4)).

	gram samples required per pound of tested flower.	lost revenues associated with diverted flower.

During development of the proposed rule, through an amendment to WAC 314-55-075, WSLCB increased the allowable canopy size for Tier 1 producers to allow for larger harvests, increasing the ability of those producers to take advantage of the proposed rule provision that allows for amounts of flower up to 50 pounds to be tested with a single panel of tests.

In addition, WSLCB considered a range of suggestions from industry representatives as to how the costs of the rule could be reduced, including:

1. Reduce the number of existing mandatory I-502 tests to accommodate pesticide testing without increasing costs to businesses.
2. Reduce the amount of flower necessary to divert for testing (i.e., maintaining the same four-gram requirement for five-pound lots).
3. Reduce the total number and frequency of pesticides tests required, for example:
    - Regular third-party testing periodically (e.g., quarterly or once a month), funded by the industry.
    - Allowing for more than one strain to be tested together as a single lot, so long as strains are grown in the same indoor room, or receive the same outdoor treatment.
4. Implement measures that might facilitate an ability for producers and processors to raise the price of their products:
    - Consider an education campaign to inform retailers and consumers of the benefits of pesticides and heavy metals testing; could help increase prices to allow for producer/processors to pass on some of the increased cost of testing.
    - Consider revisions to the structure of the industry in which producers may pass costs of testing onto retailers.
5. Shift testing requirements from flower and intermediate products to end products.
6. Consider having WSLCB test flower at the retailer level, rather than having flower tested by producers.
    - Consider increased enforcement through increased random sampling by LCB to ensure those acting fairly are not disadvantaged.

WSLCB considered these and other cost reduction options presented by the industry. However, LCB has determined they cannot be included for multiple reasons, including that they didn't meet the intended goals of the rule (e.g., testing end products after they were already placed on retail shelves), did not meaningfully reduce the costs of the rule (e.g., eliminating existing I-502 panel tests identified by the industry), were not feasible

due to constraints (e.g., reducing the number of one-gram samples of flower required to test a five-pound amount of flower), or were outside of the bounds of the rule.

The regulating agency must consider delaying compliance timetables as a potential cost mitigation option. During this rulemaking, WSLCB did consider delaying the timeframe for compliance with the pesticide and heavy metals testing requirements previously contemplated, and developed an extensive 18-month phase-in plan in the prior CR 102 proposal and supplemental proposal. As heavy metals testing is no longer required under the proposed rule, WSLCB is no longer considering a delay in compliance timing.

Other types of cost mitigation strategies that must be considered are not relevant to this rulemaking:

- **Reducing the frequency of inspections**: This rule does not change the rate at which inspections carried out by WSLCB would occur.
- **Simplifying, reducing, or eliminating recordkeeping and reporting requirements:** The rule does not impose any additional reporting or recordkeeping requirements on the industry.
- Reducing or modifying fine schedules for non-compliance: This rule does not affect fines for noncompliance.

2.6 INVOLVEMENT OF SMALL BUSINESSES IN RULE-MAKING PROCESS

Throughout the rule-development process, the WSLCB has engaged with small businesses likely to be affected by the rule. In 2019, WSLCB hosted two "listen and learn" sessions, inviting industry discussion and feedback on the proposed rule. The WSLCB's stakeholder process encouraged interested parties and industry partners to:

- Identify burdensome areas of existing and proposed rule;
- Proposed initial or draft rule changes; and
- Refine those changes.

In 2021, WSLCB hosted a series of three Deliberative Dialog Sessions to allow stakeholders an opportunity to voice their perspectives on cannabis quality assurance testing. The three sessions focused on the perspectives of three distinct elements of the supply chain affected by changes to cannabis quality assurance testing – consumers, licensed producers and processors, and certified testing labs, respectively. Information collected during these sessions further informed development of the proposed rule.

The proposed rule went through several stages of edits, review, discussion, and then further refinement before arriving at the final proposal. The end result of this process is a proposed rule that would provide a framework and guidance for testing marijuana products that supports the overarching WSLCB goal of public health and safety.

A summary of the description of issues related to the proposed rule set and how the agency collaborated with stakeholders and industry partners to mitigate potential burden

associated with rule compliance is more fully described in the Significant Analysis prepared consistent with RCW 34.05.328, and offered as part of this rule proposal.

To support development of this SBEIS, WSLCB invited licensed businesses to participate in a one-hour interview with the authors of the SBEIS. WSLCB selected 25 producers and/or processors representing a range of business types, producer tiers, business sizes, and geographies to participate in the interviews. WSLCB's contractor contacted prospective interviewees via email or phone call to schedule interviews. Potential interviewees were given several options within a one-month window for an interview, with additional times and dates offered if those originally proposed were not compatible with interviewee schedules. In the case that prospective interviewees did not respond after the first contact, they were contacted two to three times in additional attempts to schedule an interview. Ultimately, interviews were conducted with 14 producer/processors and 4 processors (see Attachment A for a list of industry representatives interviewed). Additional opportunity for public comment will be available when the proposed rule is published.

To solicit information to support this SBEIS from as broad a sample of licensed businesses as possible, WSLCB also worked with its contractor to design an online survey targeted to collecting key data points and business thoughts regarding potential provisions of the proposed rule. WSLCB invited all licensed businesses to participate in this survey, which was distributed by email on September 17, 2021. Of the 4,820 email recipients representing license holders to whom the survey was provided, 116 (2 percent) provided a response by the September 24, 2021 deadline.

2.7 JOBS CREATED OR LOST

The impacts to individual producers and processors would depend on their ability to limit their increased costs by increasing the amount of flower that is tested per testing panel, and to pass on increased testing costs (in the form of higher prices to retailers). However, the proposed rule is not expected to affect the amount of cannabis produced. Thus, the proposed rule is unlikely to affect the overall (i.e. industry-wide) number of employees of producer/processors. For example, if increased testing costs lead some smaller entities to cease production, other entities may produce larger volumes. While the additional testing costs may cause some small businesses to close if they are unable to pass on the increased testing costs; the likelihood of this occurring is unknown.

The extent to which employment may change within an individual business would depend on the specific costs incurred by that business and its ability to absorb those costs by reducing costs in other areas, raising prices, or reducing profits, for example. Several interviewees suggested that the increased costs of pesticide testing may be substantial enough to result in reduction of staff hours or release of staff.[42] One interviewee noted that there are substantial operating costs associated with marijuana production and processing, and that modifications to employment is oftentimes the only available option

[42] Email communication between licensed business interviewees and IEc in October 2021.

for reducing costs.[43] Conversely, at least one interviewee anticipated that compliance with the new regulations may require him to hire an additional employee.[44] Overall, given the relatively low costs of the rule compared to revenues reported for these businesses, it seems unlikely that the costs of the rule would result in widespread reductions in employment across these businesses.

[43] Email communication between an Industry Representative and IEc, September 23, 2021.

[44] Email communication between an Industry Representative and IEc, October 18, 2021.

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ATTACHMENT A: LIST OF INDUSTRY REPRESENTATIVES INTERVIEWED IN SEPTEMBER 2021

COMPANY NAME	LICENSE TYPE
Green Dreamer	Producer/Processor- Tier 1
Bellevue Cannabis Company	Producer/Processor- Tier 1
Manna Production	Producer/Processor- Tier 1
Washington Bud Company	Producer/Processor- Tier 2
View Askew Farms	Producer/Processor- Tier 2
Freya Farm	Producer/Processor- Tier 2
Yield Farms	Producer/Processor- Tier 2
LandRace	Producer/Processor- Tier 2
Eagle Trees Farm	Producer/Processor- Tier 2
Downtown Cannabis Company	Producer/Processor- Tier 2
Spark Industries	Producer/Processor- Tier 2
FBR South Bay LLC	Producer/Processor- Tier 2
Golden Leaf "The Natural Choice"	Producer/Processor- Tier 3
Driftboat Cannabis	Producer/Processor- Tier 3
Narwal Naturals	Processor
Heylo Cannabis	Processor
Skagit Organics	Processor
MFUSED	Processor

ATTACHMENT B: INTERVIEW GUIDE

INTERVIEW QUESTIONS

INTRODUCTION

- Who IEc is.
- We have been hired by LCB to develop a Small Business Economic Impact Statement for the forthcoming proposed rule.
- Goal of the SBEIS is to identify if the rule would disproportionately affect small businesses (defined as businesses with less than 50 employees), determine if the rule would result in more than minor costs to those businesses (defined as costing more than 0.3% of revenues), and identify potential mitigation for those costs.

DEMOGRAPHIC/BUSINESS INFORMATION

- Name of company
- Number of employees
- Business type (grower/processor/grower-processor)
- Tell us about your business in terms of products/what you do, what you produce, who you sell to (retail, processors), products you make, what uses your product goes to, etc.

OVERVIEW OF POTENTIAL PROPOSED RULE

- Ask what their status of knowledge is regarding rule development. Be clear that the rule is still under development/has been evolving over time. Can talk about the elements "being considered", which include:
    - Increasing lot size that can be tested with one set of tests (currently can only do 5 lbs at a time, rule would allow potentially more).
    - Requiring pesticide testing for flower going to retail and intermediate products.
    - Spot testing for heavy metals by LCB (but no requirement to do testing).

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QUESTIONS FOR GROWERS

- Tell us about your operation in terms of production volumes and annual revenues (if willing to share).
- Of the flower you are harvesting, what proportion is sent directly to retailers vs. processed to create other products?
- How many 5 lb lots of flower do you pay for to have tested annually?
- What is the level of effort (labor cost, time spent, etc.) associated with collecting samples for testing? If more samples had to be collected, would that increase your costs?
- Cost per single set of tests for the currently required tests?
- If you could increase the quantity of flower that could be tested with a single set of tests, would you increase the quantities you send for testing? How? What quantities could you produce of single strains and how many of them would you have tested annually?
- What do you estimate is the value of the quantity of flower diverted for testing presently (e.g., value per gram diverted, and total value of all flower diverted for testing annually)?
- Do you currently conduct pesticide testing on your flowers?
- Cost of pesticide test?
- Absent a requirement to test flower that will be sold for processing for the current suite of tests including moisture, foreign substance, etc. and now adding pesticides), would you have all of your flower tested? If not, would you have some portion tested? Would you only have certain tests, but not all, conducted? What would dictate your decision? Do you expect your buyers would request that it be done anyway?
- Do you presently conduct heavy metals testing on your flowers?
- Do you expect to conduct heavy metal testing if LCB may do spot testing on flower and intermediate products? What would drive that decision?
- Anything else you'd like to tell us about how do you expect your costs to change under the new rule?
- What types of things could LCB consider in this rulemaking that would alleviate or mitigate some of the cost burden of the rule?

QUESTIONS FOR PRODUCER-PROCESSORS

- Tell us about your operation in terms of production.
    - Do you grow any flower that is sold directly for retail?
    - Do you sell your flowers to other processors, or is all processing of your flowers done in-house?

  - Is your processing operation supplied solely with flower that your company grows?
- For flower that goes directly to retail for sale:
- See questions in "Growers" section.
- For flower purchased from other growers, would you expect to make purchasing decisions that require that growers test their flower before you would purchase it?
- For your processing production:
  - *See questions in "Processors" section.*
- Anything else you'd like to tell us about how do you expect your costs to change under the new rule? What types of things could LCB consider in this rulemaking that would alleviate or mitigate some of the cost burden of the rule?

QUESTIONS FOR PROCESSORS

- Tell us about your operations in terms of what you produce, production volumes/numbers of batches, and revenues (if willing to share).
- Do you purchase flower for your production, or are you purchasing distillates or other intermediate products to develop end products?
- Do your suppliers currently test their flowers or intermediate products for pesticides or heavy metals prior to you purchasing it?
- Absent a requirement for growers to test flower prior to processing, would you make purchasing decisions based on whether or not the flower has been tested (e.g., only purchasing from growers that test their flower?)
- How many sets of tests do you conduct/pay for annually on the volume of production previously described? How many batches of product do you have tested each year?
- Cost of that testing?
- Do you test the intermediate products you produce for pesticides or heavy metals?
- If heavy metal testing was not required for intermediate products, but LCB may test for it periodically, would that change your decision about conducting heavy metal testing on your products?
- The costs we expect your business type to incur include the cost of pesticide tests for each batch of product sent for testing, and any costs of heavy metal testing you may choose to conduct as a result of the rule. Do you expect to incur other costs as a result of this rule?
- Anything else you'd like to tell us about how do you expect your costs to change under the new rule?
- What types of things could LCB consider in this rulemaking that would alleviate or mitigate some of the cost burden of the rule?

ATTACHMENT C: INDUSTRY SURVEY QUESTIONS

SURVEY QUESTIONS

DEMOGRAPHIC/BUSINESS INFORMATION

- How many people does your business employ?
  - Fewer than 50
  - 50 or more
- What are the average *monthly* revenues of your business?
  - <$50,000
  - $50,000 to < $100,000
  - $100,000 to < $500,000
  - $500,000 to <$1,000,000
  - >$1,000,000
- What type of license do you hold?
  - Grower only
  - Grower/Processor
  - Processor only

QUESTIONS FOR "GROWER ONLY" LICENSE

- What is your average *annual* flower production in pounds?
- What portion of your flower production is sold directly to retailers?
  - <10%
  - 10%-20%
  - 21%-30%
  - 31%-40%
  - 41%-50%
  - 51%-60%
  - 61%-70%
  - 71%-80%

- 81%-90%
- 91%-100%

- What portion of your flower production is sold to processors for processing into intermediate products?
  - <10%
  - 10%-20%
  - 21%-30%
  - 31%-40%
  - 41%-50%
  - 51%-60%
  - 61%-70%
  - 71%-80%
  - 81%-90%
  - 91%-100%
- Given your current production, how many 5 pound lots of flower do you have tested for the currently required tests annually (i.e, Moisture content, Potency analysis, Foreign matter inspection, Microbiological screening, and Mycotoxin screening)?
- What do you currently pay in dollars per complete suite of required tests (i.e., excluding any voluntary testing for pesticides, heavy metals, etc., the total testing cost for a 5 pound lot)?
  - <$100
  - $100 to <$200
  - $200 to <$300
  - $300 to <$400
  - >$400
- Do you currently conduct any pesticide testing on your flowers?

    a. Yes

    b. No

    What is the cost in dollars that you pay for each pesticide test? *[only display question if answer to question above is "yes"]*

    a. <$100

    b. $100 to <$200

    c. $200 to <$300

d. $300 to <$400

e. >$400

- Do you presently conduct any heavy metals testing on your flowers?

  a. Yes

  b. No

  What is the cost in dollars that you pay for each heavy metals test? *[only display question if answer to question above is "yes"]*

  a. <$100

  b. $100 to <$200

  c. $200 to <$300

  d. $300 to <$400

  e. >$400

- Would you conduct heavy metals testing on your flowers if it were not required, but if flowers or products made from your flowers may be spot-tested by the Board to ensure they do not exceed the existing heavy metal content standards?

  a. Yes

  b. No

  c. I would test some, but not all of my flowers.

- What is the average lost revenue associated with each 1 gram sample that must be diverted to testing?

- Do you have any other thoughts or comments regarding the potential costs of changes to the recreational cannabis testing requirements that you would like us to consider in developing the SBEIS?

QUESTIONS FOR "GROWER/PROCESSORS" ONLY

4. What is your average *annual* flower production in pounds?
5. What portion of your flower production is sold directly to retailers?

   a. <10%

   b. 10%-20%

   c. 21%-30%

   d. 31%-40%

   e. 41%-50%

   f. 51%-60%

   g. 61%-70%

   h. 71%-80%

i. 81%-90%

j. 91%-100%

6. What portion of your flower production is processed in-house into intermediate products?

   a. <10%

   b. 10%-20%

   c. 21%-30%

   d. 31%-40%

   e. 41%-50%

   f. 51%-60%

   g. 61%-70%

   h. 71%-80%

   i. 81%-90%

   j. 91%-100%

7. What portion of your flower production is sold to processors for processing into intermediate products?

   a. <10%

   b. 10%-20%

   c. 21%-30%

   d. 31%-40%

   e. 41%-50%

   f. 51%-60%

   g. 61%-70%

   h. 71%-80%

   i. 81%-90%

   j. 91%-100%

8. Given your current production, how many 5 pound lots of flower do you have tested for the currently required tests annually (i.e, Moisture content, Potency analysis, Foreign matter inspection, Microbiological screening, and Mycotoxin screening)?

   a. <10

   b. 10 to < 50

   c. 50 to <100

   d. 100 to <250

e. 250 to <500

f. 500 to <1,000

g. >1,000

9. What do you currently pay in dollars per complete suite of required tests (i.e., excluding any voluntary testing for pesticides, heavy metals, etc., the total testing cost for a 5 pound lot)?

   a. <$100

   b. $100 to <$200

   c. $200 to <$300

   d. $300 to <$400

   e. >$400

10. Do you currently conduct any pesticide testing on your flowers?

    a. Yes

    b. No

    What is the cost in dollars that you pay for each pesticide test? *[only display question if answer to question above is "yes"]*

    a. <$100

    b. $100 to <$200

    c. $200 to <$300

    d. $300 to <$400

    e. >$400

11. Do you presently conduct any heavy metals testing on your flowers?

    a. Yes

    b. No

    What is the cost in dollars that you pay for each heavy metals test? *[only display question if answer to question above is "yes"]*

    f. <$100

    g. $100 to <$200

    h. $200 to <$300

    i. $300 to <$400

    j. >$400

12. Would you conduct heavy metals testing on your flowers if it were not required, but flowers or products made from your flowers may be spot-tested by the Board to ensure they do not exceed the existing heavy metal content standards?

d. Yes

e. No

f. I would test some, but not all of my flowers.

13. What is the average lost revenue associated with each 1 gram flower sample that must be diverted to testing?

14. Is your processing operation supplied solely with flower grown by your own farm?

    a. Yes

    b. No

15. What inputs do you use to support your processing operations? (Check all that apply)

    - I purchase flowers from other growers
    - I purchase intermediate products from other processors
    - My only inputs are flowers or intermediate products that are grown/processed by my own business.

    Do you require that your suppliers test their flowers for pesticides prior to purchase? [*only display question if response to question 15 includes first option "I purchase flower from other growers"]*

    a. Yes

    b. No

    Do you require that your suppliers test their flowers for heavy metals prior to purchase? [*only display question if response to question 15 includes first option "I purchase flower from other growers"]*

    a. Yes

    b. No

16. If the intermediate products you produce would require pesticide testing, will this influence how you purchase flowers, or from whom?

    a. I would only purchase flowers from growers who have tested their flowers

    b. I would prefer to purchase flowers from growers who have tested their flowers.

    c. If I am required to test my products for pesticides, I would not have a preference between growers that have or have not tested their flowers.

17. What type of products do you produce through your processing activities (i.e., not including flower)?

    a. Only intermediate products (e.g., distillates)

b. Only end products (e.g., infused beverages)?

c. I produce both intermediate and end products.

18. How many batches of intermediate product (i.e., not end products, but those intermediate products produced directly from flower) do you currently have tested for the required suite of tests annually (i.e, Moisture content, Potency analysis, Foreign matter inspection, Microbiological screening, and Mycotoxin screening)?

    a. <10

    b. 10 to < 50

    c. 50 to <100

    d. 100 to <500

    e. 500 to <1,000

    f. >1,000

19. What is the per batch cost of the required suite of tests (i.e., not including any voluntary testing for pesticides, heavy metals, etc)?

    a. <$100

    b. $100 to <$200

    c. $200 to <$300

    d. $300 to <$400

    e. >$400

20. Would you conduct heavy metals testing on your intermediate products if it were not required, but products may be spot-tested by the Board to ensure they do not exceed the existing heavy metal content standards?

    a. Yes

    b. No

    c. I would test some, but not all of my products.

21. Do you expect to pass any additional costs of pesticide and/or heavy metals testing on to the buyers of your products?

    a. I would expect to pass all costs of testing on to my buyers.

    b. I would expect to pass some of the costs of testing on to my buyers.

    c. I do not expect to pass the costs of testing on to my buyers.

22. Do you have any other thoughts or comments regarding the potential costs of changes to the recreational cannabis testing requirements that you would like us to consider in developing the SBEIS?

QUESTIONS FOR HOLDERS OF "PROCESSING ONLY" LICENSE

4. What inputs do you use to support your processing operations? (Check all that apply)
    - o I purchase flowers from growers
    - o I purchase intermediate products from other processors
    - o Other (please describe) *[display text box for information entry if this option is included in the selection]*
5. What type of products do you produce?
    a. Only intermediate products (e.g., distillates)
    b. Only end products (e.g., infused beverages)?
    c. I produce both intermediate and end products.

    Do you require that your suppliers test their flowers for pesticides prior to purchase? [*only display question if response to question 4 includes the first option "I purchase flowers from growers"]*
        a. Yes
        b. No

    Do you require that your suppliers test their flowers for heavy metals prior to purchase? [*only display question if response to question 4 includes the first option "I purchase flowers from growers"]*
        a. Yes
        b. No

    Do you require that your suppliers test their intermediate products for pesticides prior to purchase? [*only display question if response to question 4 includes the second option "I purchase intermediate products from other processors"]*
        a. Yes
        b. No

    Do you require that your suppliers test their intermediate products for heavy metals prior to purchase? [*only display question if response to question 4 includes the second option "I purchase intermediate products from other processors"]*
        a. Yes
        b. No
6. If the intermediate products you produce would require pesticide testing, will this influence how you purchase your flowers, or from whom?
        a. I would only purchase flowers from growers who have tested their flowers

b. I would prefer to purchase flowers from growers who have tested their flowers.

c. If I am required to test my products for pesticides, I would not have a preference between growers that have or have not tested their flowers.

d. I do not purchase flowers directly.

7. How many batches of intermediate product (i.e., not end products, but those intermediate products produced directly from flower) do you currently have tested for the required suite of tests annually (i.e, Moisture content, Potency analysis, Foreign matter inspection, Microbiological screening, and Mycotoxin screening)?

    a. None, I do not produce intermediate products

    b. <10

    c. 10 to < 50

    d. 50 to <100

    e. 100 to <500

    f. 500 to <1,000

    g. >1,000

    What is the per batch cost of that suite of tests? *[only display question if answer to preceding question is something other than "a"]*

        a. <$100

        b. $100 to <$200

        c. $200 to <$300

        d. $300 to <$400

        e. >$400

8. Would you conduct heavy metals testing on your intermediate products if it were not required, but products may be spot-tested by the Board to ensure they do not exceed the existing heavy metal content standards?

        a. Yes

        b. No

        c. I would test some, but not all of my products.

        d. I do not produce intermediate products

9. Do you expect to pass any additional costs of pesticides and/or heavy metals testing on to the buyers of your products?

        d. I would expect to pass all costs of testing on to my buyers.

e. I would expect to pass some of the costs of testing on to my buyers.

f. I do not expect to pass the costs of testing on to my buyers.

10. Do you have any other thoughts or comments regarding the potential costs of changes to the recreational cannabis testing requirements that you would like us to consider in developing the SBEIS?

ATTACHMENT D: DATA DICTIONARY

DATA ITEM	SOURCE
Number of Licensed Producer/Processors	Email communication from WSLCB to IEc, August 24, 2021.
Number of Producer/Processors considered large	Email communication from ESD to IEc, September 20, 2021.
Producer/Processor 2018-2020 Revenues	Data extracted from Leaf Data System by LCB, October 2021.
Number of Samples Tested Annually	Data extracted from Leaf Data System by LCB, October 2021.
Value of 1 gram of marijuana flower	Interviews with producers and processors, September 2021. Results of industry survey conducted by WSLCB in September/October 2021.
Testing Costs	Interviews with producers and processors, September 2021. Results of industry survey conducted by WSLCB in September/October 2021. Online research into testing prices posted on laboratory websites (October 2021).
Employment Impacts	Interviews with producers and processors, September 2021.