



An investigation into the availability and quality of testing services for agribusinesses in Fiji

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Introduction

MDF has worked closely with agribusinesses in Fiji since its inception in 2013 and has observed that they often struggle with obtaining accurate, accredited testing – e.g. soil tests (e.g. heavy metals) to support organic accreditation, or kavalactone tests for the quality of kava products. However, this evidence was largely anecdotal.

Accordingly, MDF undertook a more empirical study into the availability and quality of testing services for agribusinesses in Fiji.

Methodology

We designed an online survey comprising qualitative and quantitative questions to gather data about Fiji-based agriculture businesses who may have used testing services. These questions aimed to assess the supply and demand of these services, and their experiences in using them.

The survey was undertaken online through MS Forms and was sent to 78 agribusinesses who were either known to MDF or/and on the list of Investment Fiji's agriculture exporters. We received 17 responses, of which 15 were valid and analysed.

Results



Of the fifteen agribusiness respondents, all had some experience using a testing laboratory. The most common laboratories used were Ministry of Agriculture (MOA), University of the South Pacific (USP) and Southern Cross University in Australia. Common tests were soil, kavalactone, and nutritional facts tests, these same tests are also needed in the coming year.



Businesses generally find local testing laboratories either very expensive and/or not suited to serving the private sector, and therefore some have resorted to testing abroad. Cost, expertise and experience, turnaround time, and accreditation are the main factors determining the choice of testing laboratory according to respondents.

3.1. Current use of laboratory testing facilities

The most common tests were soil (7), kavalactone (5) and nutritional facts test (3), and majority of the respondents use the MOA and USP for testing, while some opt to send their samples abroad for testing, where possible. On average, MOA, USP and Douglas Pharmaceuticals testing services were all rated "Neutral", while the highest rated laboratories were Hills Lab in New Zealand, a Laboratory in Japan and Southern Cross University in Australia (Tables 1 & 2).

Table 1: Average rating by testing institution (1.0 = Terrible to 5.0 = Outstanding)

Laboratory (no. responses)	Cost	Timeliness	Value for money	Service	Credibility of results	Accuracy	Acceptance of results for purpose	Ease of access	Avg Rating	Tests Performed
Hills Lab Hamilton NZ (1)	3.0	5.0	4.0	5.0	4.0	4.0	4.0	5.0	4.3	Heavy metal, Microbiology, ethanol, Nutrients, agricultural residues
Japan Lab (1)	4.0	4.0	4.0	4.0	5.0	5.0	4.0	4.0	4.3	Bacteria analysis
Southern Cross Uni Aus (2)	2.0	4.5	4.5	4.5	5.0	5.0	5.0	3.0	4.2	Soil test
Douglas Pharma (1)	4.0	4.0	4.0	2.0	3.0	4.0	4.0	2.0	3.4	kava lactone, microbial heavy metals and chemotype
Ministry of Agriculture (10)	3.6	1.9	2.7	2.8	3.2	3.5	3.3	3.0	3.0	Kava lactone, kava properties, soil test, product test, bacterial test, water test, nutritional facts
Sagitto USA (1)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	Kavalactone
USP (7)	2.9	1.8	2.8	2.5	3.3	3.2	3.3	3.2	2.9	Fat chain, sulphur dioxide, microbial content, lactone content, nutritional facts, gas chromatography, soil test, wastewater test, product test

Table 2: Number of tests undertaken by each laboratory

Tests Performed	Lab & No. of Tests							
	Ministry of Agriculture	USP FJ	Hills Lab Hamilton NZ	Douglas Pharmaceuticals Fiji	Southern Cross Uni, AU	Japan Laboratory	Sagitto Hamilton NZ	Total
Soil Test	4	1			2			7
Kavalactone	3			1			1	5

Nutritional Facts	1	1	1					3
Bacterial	1					1		2
Heavy metals			1	1				2
Microbial content		1		1				2
Agricultural residues			1					1
Analysis of product		1						1
Chemotype				1				1
Ethanol			1					1
Fat chain		1						1
Gas chromatography		1						1
Microbiology			1					1
Sulfur Dioxide		1						1
Water	1							1
Total	10	7	5	4	2	1	1	30

3.2. Intentional to use laboratory testing facilities in the future

Ten of the respondents are considering using laboratory testing in the coming year, with two maybe needing it in the same period. The most common tests demanded in the coming year are nutritional content, kavalactone, soil and bacterial tests.

Respondents took a range of factors into account when considering using testing laboratories; the main ones being cost, expertise and experience, turnaround time, and accreditation (Table 3). However, the tests and accreditation standards needed are determined by the buyer.

Overall, most respondents agreed that local laboratories are either too expensive and/or not suited to serve the private sector, and therefore where possible, resort to testing abroad, which incurs a high freight cost.

Table 3: Factors considered when choosing laboratory testing services

Factors & number of responses	Rating	Comments
Cost (11)	Strongly Agree	
Expertise (11)	Strongly Agree	• Tests are dictated by the buyers
Turnaround Time (11)	Strongly Agree	• Services by USP should be more accessible to Fijian businesses
Location (11)	Agree	
Experience (11)	Strongly Agree	
Certification/accreditation (11)	Strongly Agree	• High quality products require high quality services
Ratings (11)	Agree	
Personal recommendations (10)	Agree	



Appendix

4.1. Survey Questions

1. Have you ever used a laboratory (local or foreign) to test your products, soil or other components? If yes:

- Laboratory Name
 - Location
 - Test/s performed
 - Accreditation
-

2. What is your experience with this laboratory?

- Cost
 - Timeliness
 - Value for money
 - Service
 - Credibility of results
 - Accuracy
 - Acceptance of results for purpose
 - Ease of access
 - Other (specify below)
-

3. If no, why have you not needed to use lab testing services?

4. Are you considering using laboratory testing services in the near future (one year)?

- If yes, what tests do you currently need, and to what level of accreditation?
- If no, why not?

5. What factors do you consider when choosing sources of laboratory testing services?

- Cost
 - Expertise
 - Turnaround Time
 - Location
 - Experience
 - Certification/accreditation
 - Ratings
 - Personal recommendations
 - Other (specify below)
-

6. Is there anything else you wish to share about laboratory services?

7. What other constraints do you face in accessing premium markets?



4.2. Participants

- Fresh produce sellers and exporters
- Kava exporters
- Coconut oil producer
- Ginger/turmeric powder producer
- Noni juice producer
- Preserved vegetables producer
- Chocolate maker
- Value-added juices and puree exporter