

External assessment

Stimulus book

Business

General instruction

- Work in this book will not be marked.

Case study 1 (Stimulus 1–9) — Herbs & Spices Inc.

Stimulus 1

Business overview

Herbs & Spices Inc. is a Queensland family-owned business that started in 1980. The business grows and packages fresh herbs, buying seeds, fertilisers and pesticides from local suppliers. The market for Herbs & Spices Inc. includes a mix of wholesalers and supermarkets, predominantly in Queensland.

In 2017, a modernised packaging plant was installed, enabling Herbs & Spices Inc. to meet their customers' orders in a more timely manner. Employees were concerned that their jobs would be cut because of the mechanised system. The family has worked hard to ensure that no jobs were lost due to the modernisation of the packaging process. The owners, Joe and Diane Green, believe that the new packaging process is all that is needed to move the business forward.

Stimulus 2

Email from Elkie Green to her parents (owners of Herbs & Spices Inc.)

Future business direction ideas

September 2020

Hi Mum and Dad,

Since I finished my business degree two years ago, I've been working hard, learning about your business and the industry. I am grateful that you want me to become Managing Director when you retire next year.

As future Managing Director, I want to:

- transition our business to an eco-friendly business
- move our business forward by expanding our market
- increase the revenue and profits for our business.

To achieve this, I think we should reduce our focus on soil-grown herbs and move to a hydroponic growing system. From my research, hydroponics is more efficient and sustainable. Hydroponic plants grow 25–30% faster than soil-grown plants, which means we could increase our production.

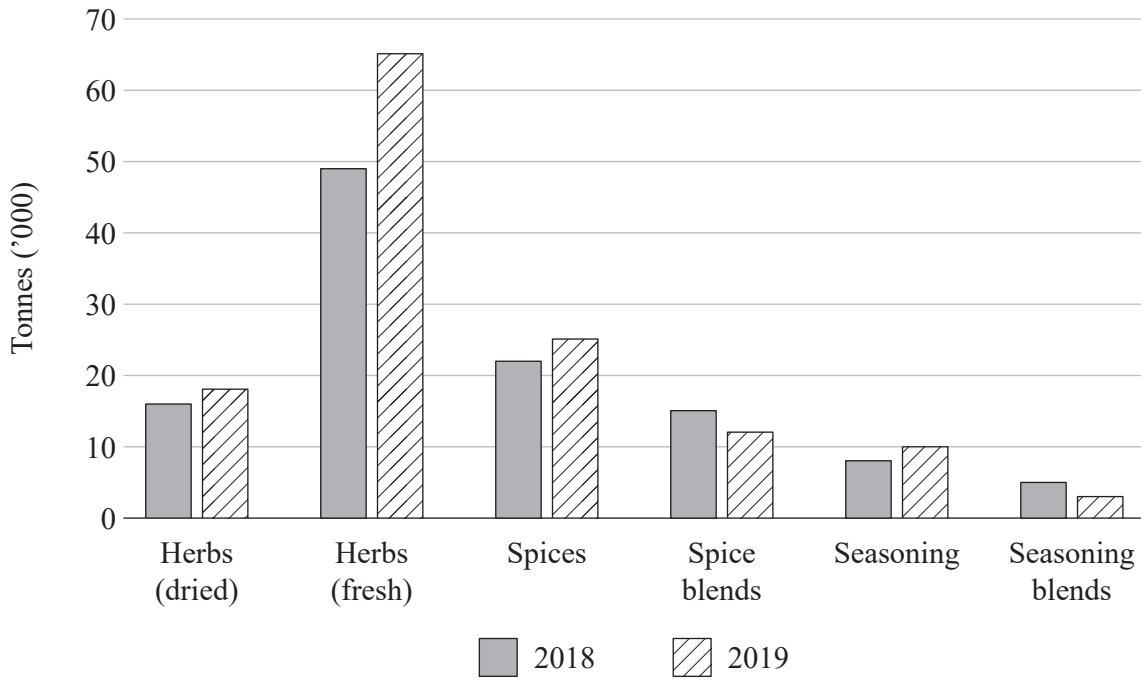
I also surveyed our major customers and suppliers, and all of our employees. What I found is that while loyalty to Herbs & Spices Inc. is high among our employees, it is low for our suppliers and our customers. Overall, our customers are mostly satisfied with us but want fewer seasonal fluctuations in the supply of herbs.

I know you don't think we need any more change right now but I think this will be best for our business and your retirement fund!

Love you,
Elkie

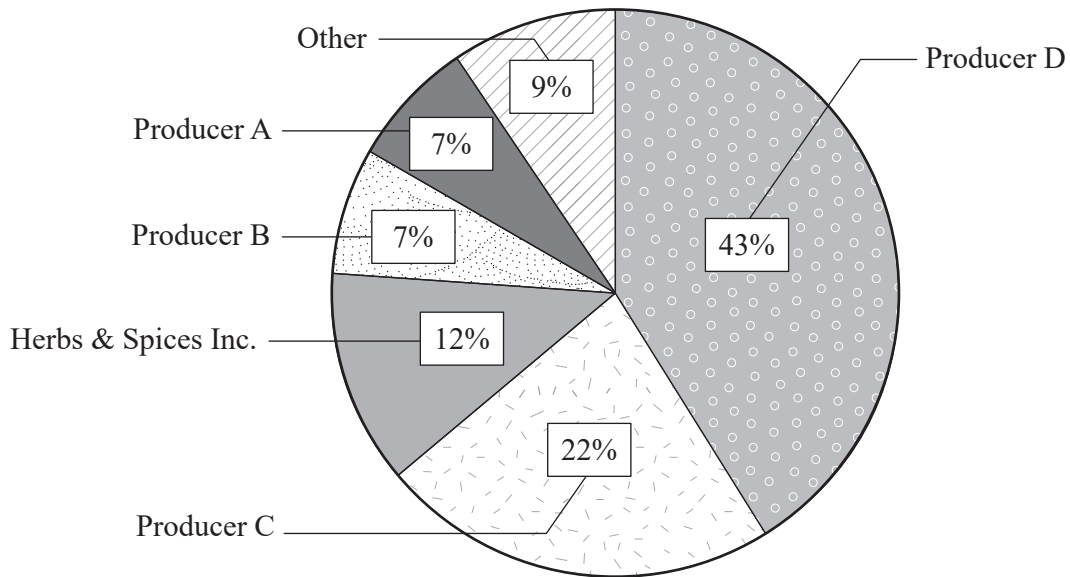
Stimulus 3

Herb, spice and seasoning industry sales in Queensland (2018–2019)



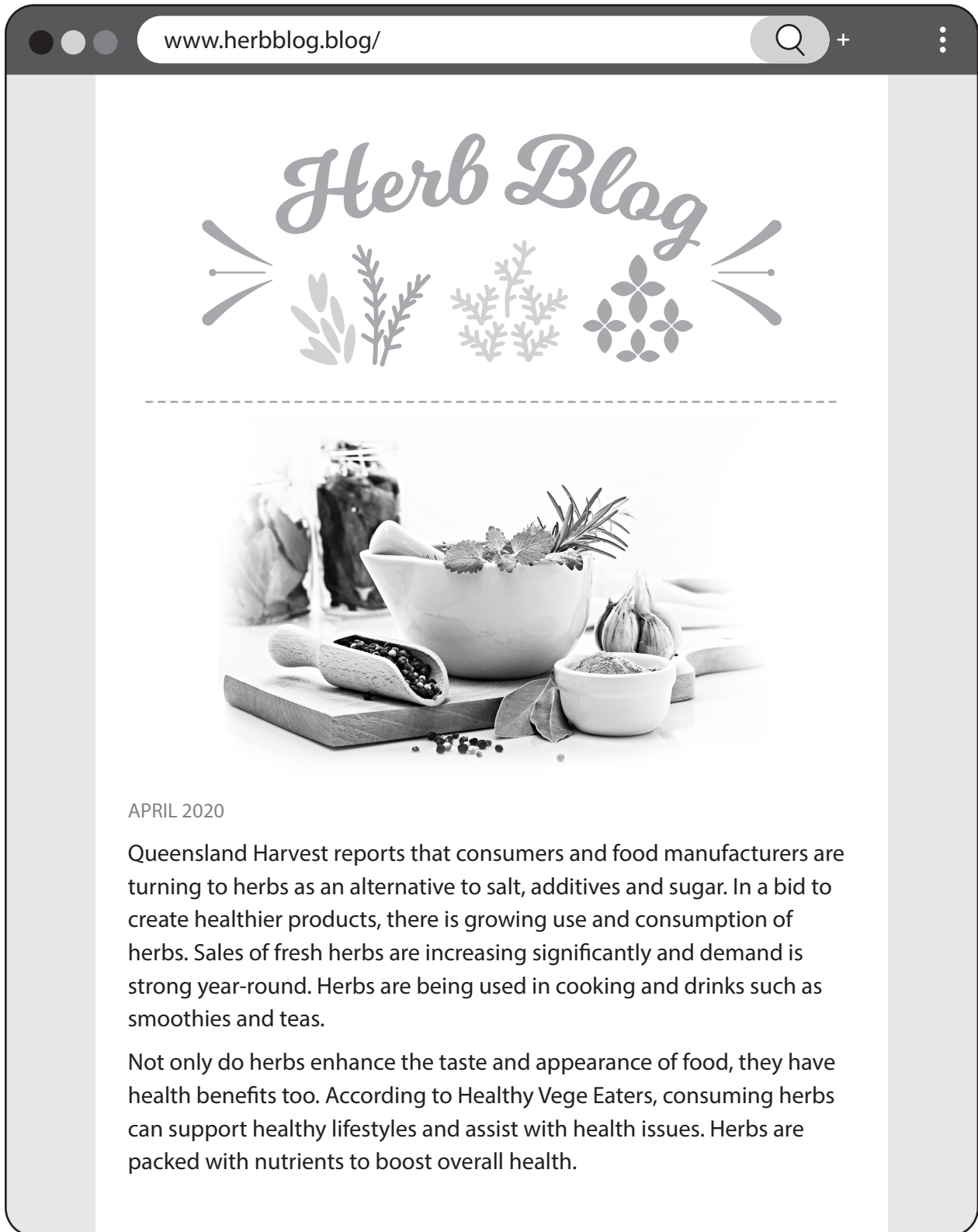
Stimulus 4

Herb, spice and seasoning producers in Queensland (by sales volume, 2019)



Stimulus 5

Blog: 'Herb Blog'



www.herbblog.blog/

Herb Blog

APRIL 2020

Queensland Harvest reports that consumers and food manufacturers are turning to herbs as an alternative to salt, additives and sugar. In a bid to create healthier products, there is growing use and consumption of herbs. Sales of fresh herbs are increasing significantly and demand is strong year-round. Herbs are being used in cooking and drinks such as smoothies and teas.

Not only do herbs enhance the taste and appearance of food, they have health benefits too. According to Healthy Vege Eaters, consuming herbs can support healthy lifestyles and assist with health issues. Herbs are packed with nutrients to boost overall health.

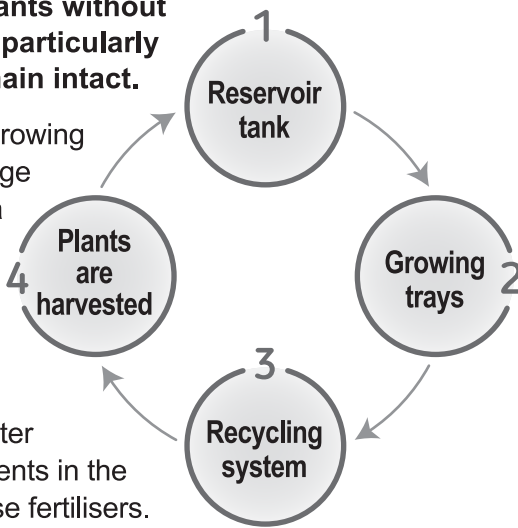
Stimulus 6

Magazine article: ‘The new trend in growing herbs is hydroponics’

The new trend in growing herbs is HYDROPONICS

A faster growing system for plants without the use of soil, hydroponics is particularly healthy as all the nutrients remain intact.

Using the hydroponic method of growing is more profitable as it enables large amounts of crops to be grown in a small area. Hydroponics is one of the easiest methods for growing herbs. Additionally, the system is environmentally friendly and sustainable. The reservoir tank for growing the plants reduces water consumption and retains the nutrients in the system, eliminating the need to use fertilisers.



Differences between soil-grown and hydroponic systems for growing herbs

Soil-grown system	Hydroponic system
Labour-intensive system	System requires limited intervention
Slow growth rate of herbs	Growth rate is greatly increased from soil-grown (approximately 30% higher) and consumes less water, energy and natural resources for the same output
Expensive to maintain watering and fertilising requirements	Initial expense of nutrients is relatively minor and the system is cost-efficient to operate
Employment of significant number of people to plant seeds, maintain plants during growing and harvest plants	Employment of limited number of people to plant seeds and harvest plants
At risk from weather patterns, pests and pesticides	Protected from weather patterns, pests and pesticides
	Reduces land usage significantly

Stimulus 7

Factsheet: 'Queensland's water resources'



Queensland's water resources

Queensland's accessible water storage capacity is almost

101 000
gigalitres

In 2019–2020, water storage was around 80% full at 81 000 gigalitres.

In 2019, the gross value of Queensland's agricultural production was \$65 billion and more than

\$45 billion
of this was irrigated products.

Total water use on Queensland farms has increased by

15%
between 2017 and 2019

From 2017 to 2019, water usage to support agricultural production increased by

45%

Climate change and changes in weather patterns have caused reductions in water availability, resulting in

reduced
agricultural productivity

The government plans to

fast-track
water infrastructure

due to rising water consumption in the farming industry.

Stimulus 8

Email from a hydroponics equipment supplier

 Re: Hydroponic system set-up cost

September 2020

Hi Elkie,

Thank you for your enquiry about the costs to establish a hydroponic system to grow herbs.

Based on the estimates you provided, I can confirm that the initial set-up costs are \$50 000. This will include all the necessary equipment to convert your current operations. You will also need to factor in training for your staff. I would be prepared to offer this at a discounted rate of \$2000 in total.

All staff will need to be trained in how to use a nutrient-dependent growing system. This is not easy and is completely different from your current operations. Once your staff are trained, there should be no need for any further training. You will also notice a reduction in daily tasks and maintenance under the hydroponic system. It looks after itself! I would suggest that you also purchase the hydroponic converter and train at least one person in how to manage this. This is a crucial step in maintaining your system.

The ongoing costs for a hydroponic system are minimal compared to a soil-grown system. You will no longer need to budget for irrigation or fertilisers for your crops. The only ongoing cost for the hydroponic system is the nutrients. With the size of your farm, this could be an enormous cost benefit.

You will notice a difference when it comes time to harvest your herbs. As the system is in a confined space, the labour intensity of harvesting compared to a soil-grown system is reduced dramatically. Harvesting time is halved. The benefits of a hydroponic system are endless.

I look forward to hearing from you soon.

Regards,
John

Stimulus 9

Blog: 'Traditional farming for the future'



Traditional farming for the future

by Annie Rambler

Soilless farming methods such as hydroponics, aeroponics (growing plants in an air or mist environment without the use of soil or an aggregate medium) and aquaponics (a combination of growing fish and other aquatic animals, and hydroponics) are not the way of the future. Here at Rambler Farming we think that traditional methods of farming play an essential role in the future of food production and in local communities. We firmly believe that to achieve equitable and sustainable food systems, new technologies are not the answer. We are not convinced that growing food without the use of soil will work.

Here are some factors we need to consider:

- Hydroponics uses LED technology to create a growing environment inside. What are the greenhouse gas emissions going to be? We must reduce our carbon footprint, not increase it.
- Traditional farming methods are passed down through generations and play a significant role in communities. Could you imagine the effect on rice growers? Rice growing has been around for centuries. It is a technique that requires soil and sun to produce crops.

How could large-scale hydroponics operations work? The cost to establish operations to replace traditional farming methods would be significant.

What's next — cattle-ponics?

Let's keep the conversation going! Use #FarmingFamiliesForOurFuture to let us know your thoughts.

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