



Analysis of the treated wood market for agricultural and horticultural uses in New Zealand

by Boris van Bruchem

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A scenic view of a rural landscape featuring rolling green hills, scattered trees, and a wooden fence in the foreground. The sky is bright and clear.

Definition

Fence posts for stock & crops

Kiwifruit pergolas

Vineyard posts

Other horticultural supporting structures

Definition



Not treated wood for:

-retaining walls

-power poles

-decks

-sheds

Providing context

A man with grey hair, wearing a light-colored short-sleeved shirt and shorts, is leaning on a wooden fence. He is looking out over a vast, green landscape. In the background, there are rolling green hills, a body of water (likely a lake or reservoir), and a cloudy sky. The overall scene is a rural, natural setting.

Lack of information

CCA concerns (CCA liability)

'clean green image'

Importance

A yellow excavator is positioned in the center of a forest clearing, surrounded by young trees and a grassy field. The excavator's arm is raised, and it appears to be working on a tree stump. In the background, there are more trees and a few cars parked. The scene is set in a rural, hilly area with a clear sky.

Two key industries

Organic, sustainable

Small dimension timber

Data and methods

An aerial photograph of a valley. In the foreground, there are green fields and a river winding through a rocky, light-colored landscape. In the middle ground, there are more fields and some trees. In the background, there are mountains under a blue sky with some clouds.

1. Use per hectare estimate

2. Manufacturers' estimate

3. Resource use estimate

Data and methods

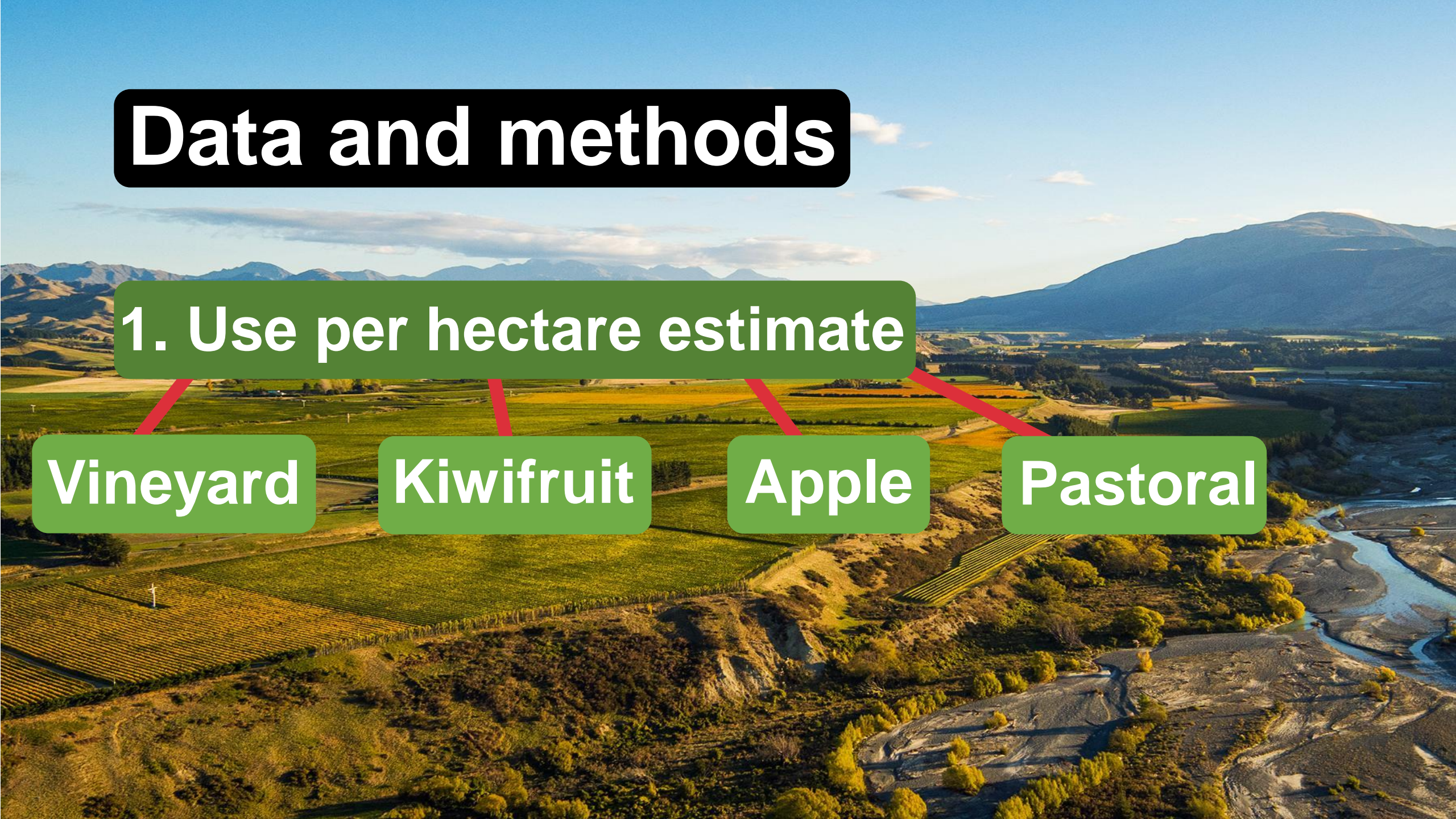
1. Use per hectare estimate

Vineyard

Kiwifruit

Apple

Pastoral

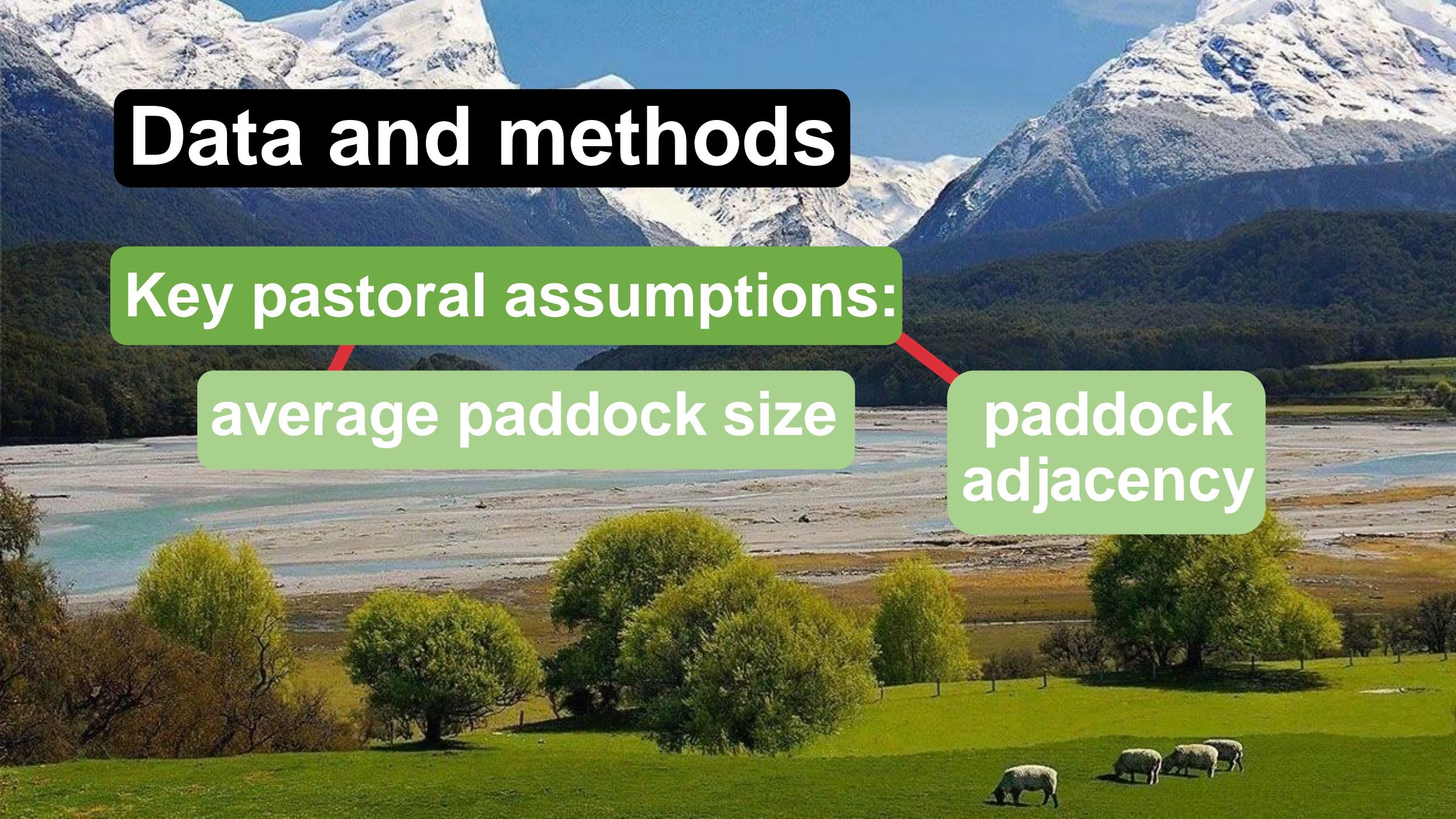


Data and methods

Key pastoral assumptions:

average paddock size

paddock adjacency



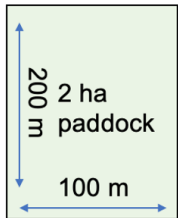
Data and methods

Key pastoral assumptions:

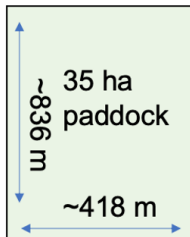
average paddock size

paddock adjacency

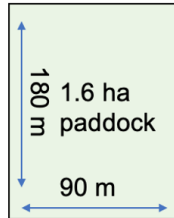
approx
40%



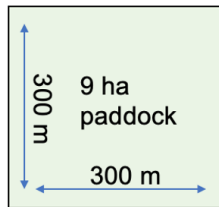
**Intensive
Sheep &
Beef**



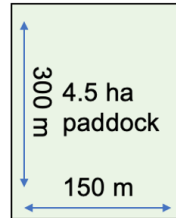
**Extensive
Sheep &
Beef**



Dairy



Cropping



Deer

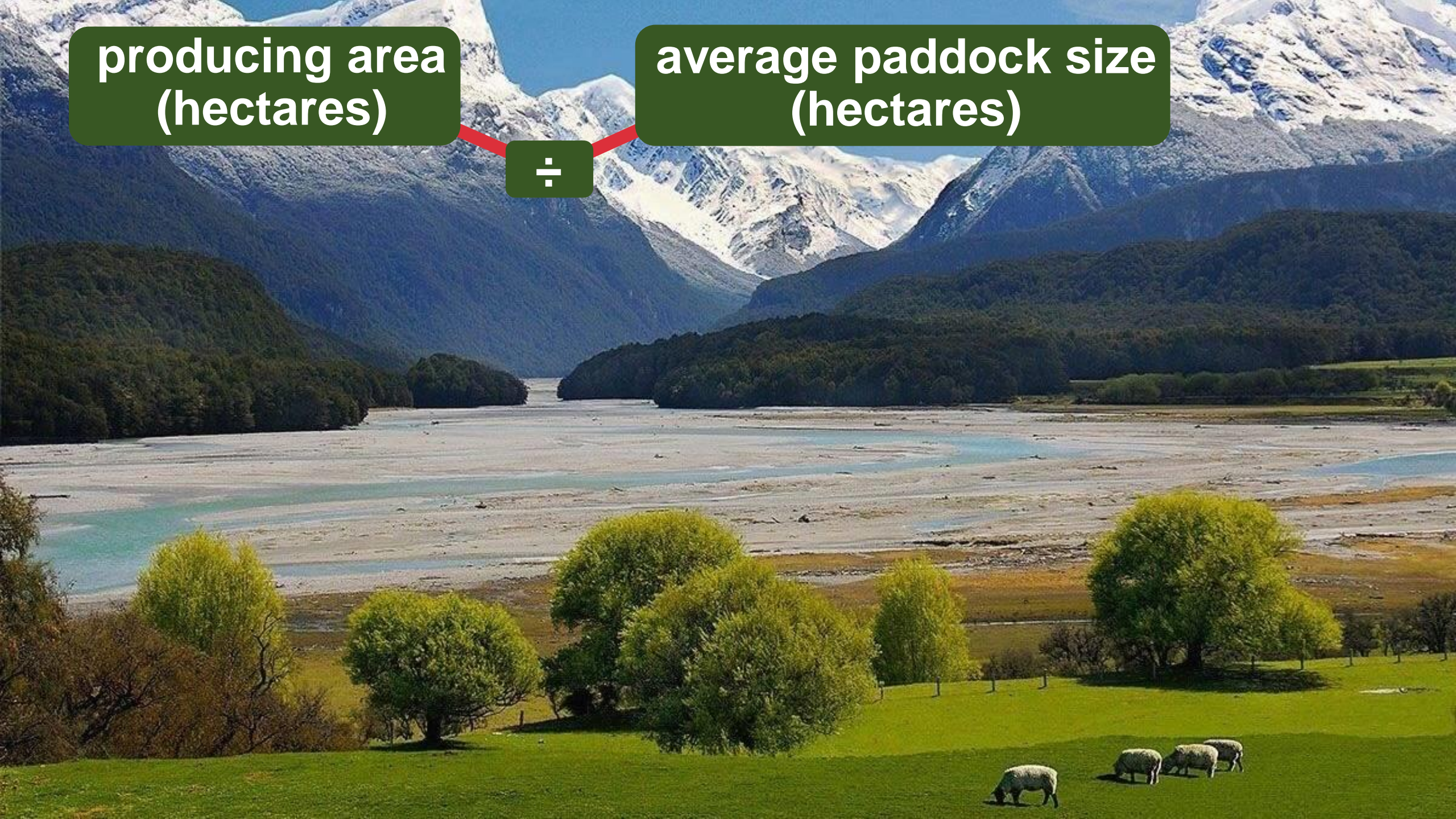
**producing area
(hectares)**



producing area
(hectares)

average paddock size
(hectares)

÷

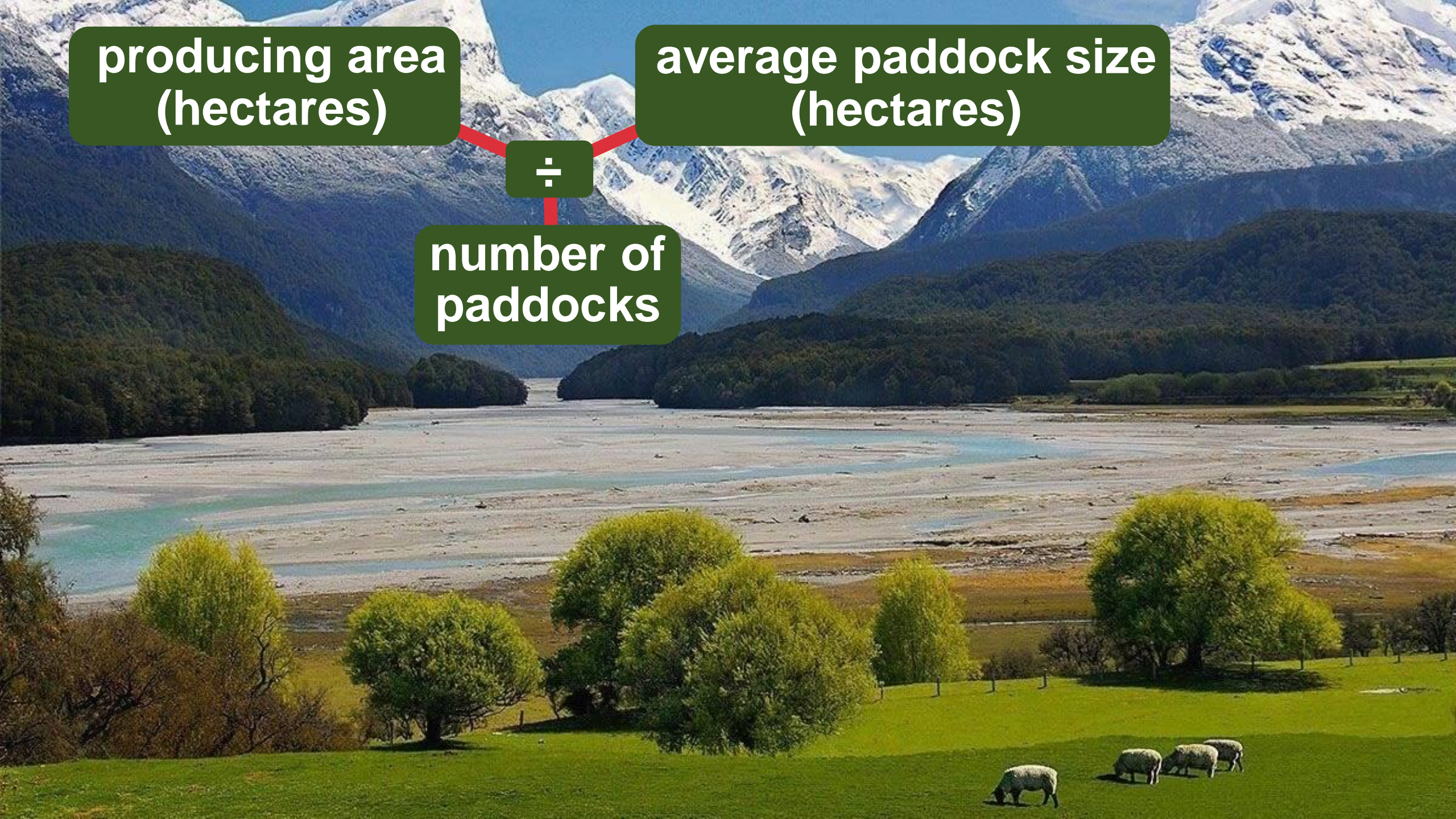


**producing area
(hectares)**

**average paddock size
(hectares)**

÷

**number of
paddocks**



producing area
(hectares)

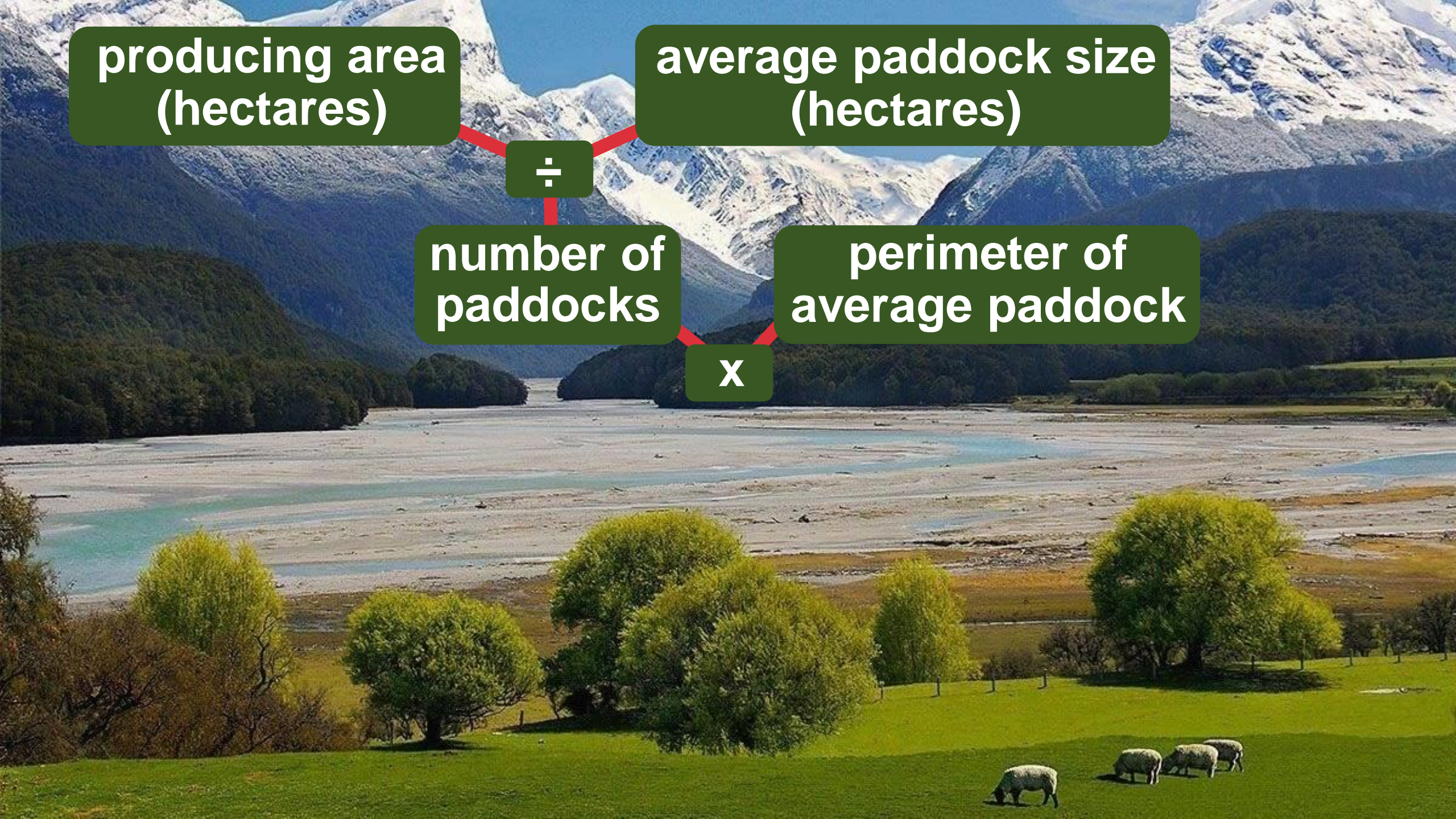
average paddock size
(hectares)

÷

number of
paddocks

perimeter of
average paddock

x



producing area
(hectares)

average paddock size
(hectares)

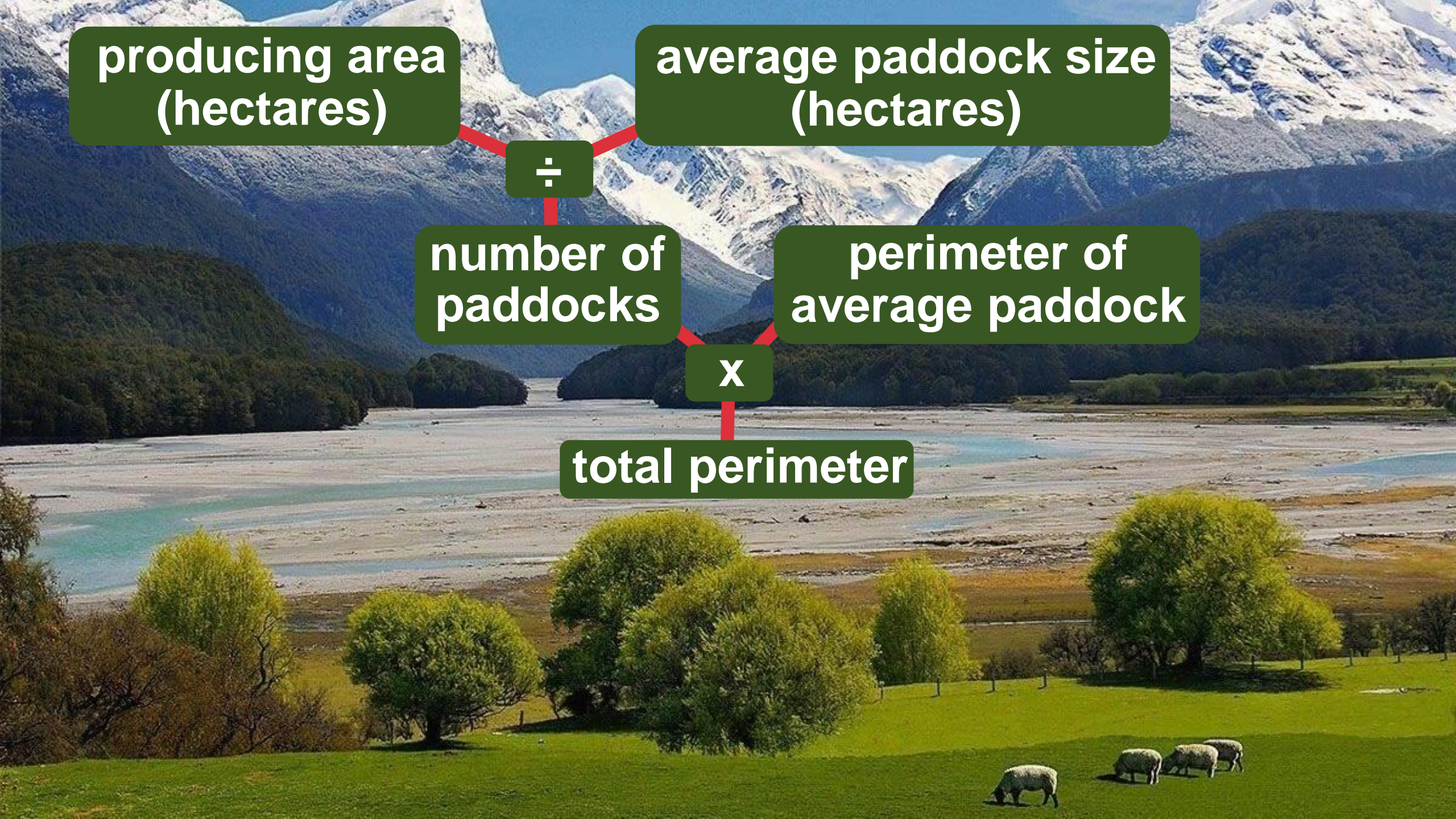
÷

number of
paddocks

perimeter of
average paddock

x

total perimeter



producing area
(hectares)

average paddock size
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÷

number of
paddocks

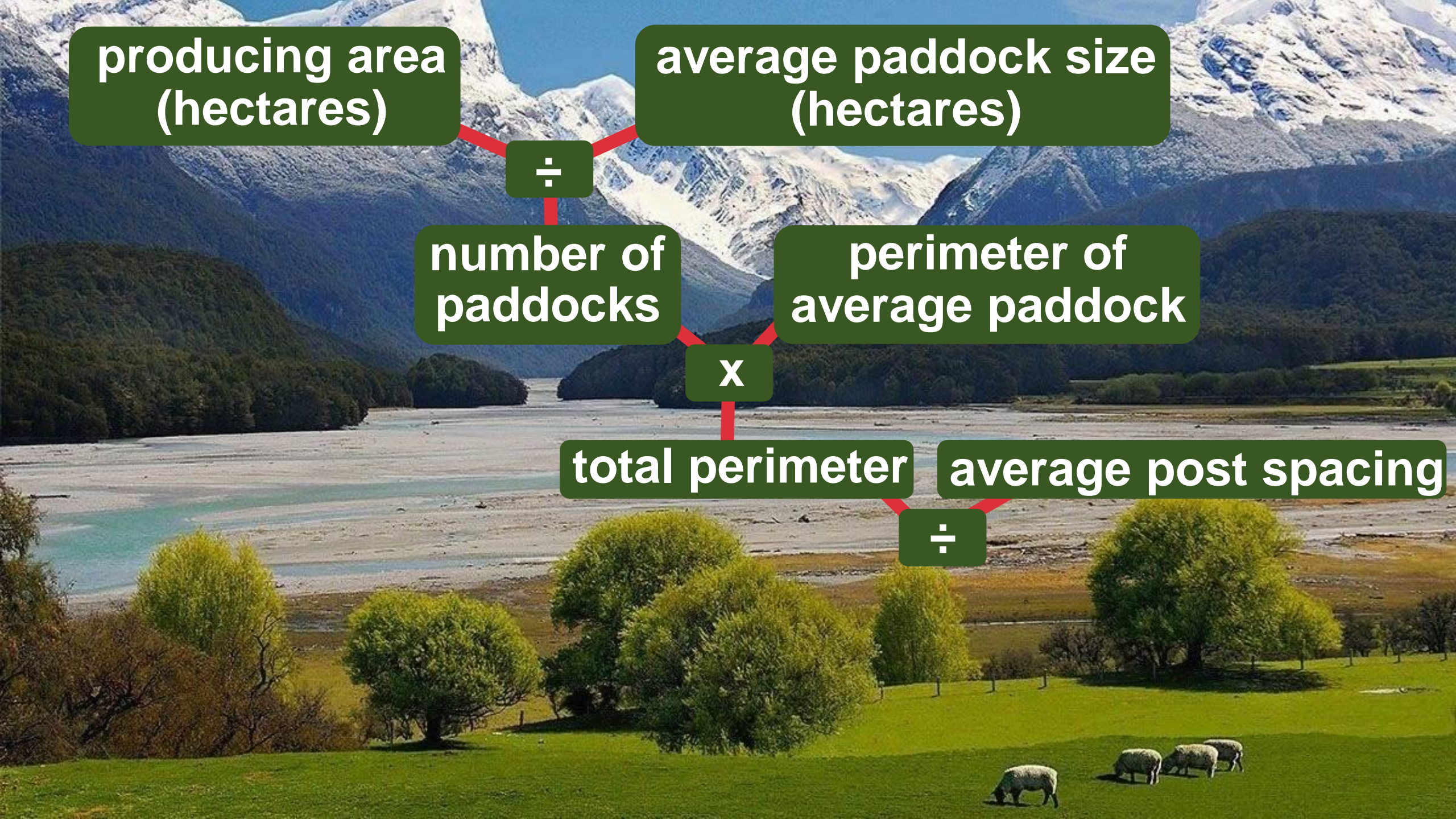
perimeter of
average paddock

x

total perimeter

average post spacing

÷



producing area
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average paddock

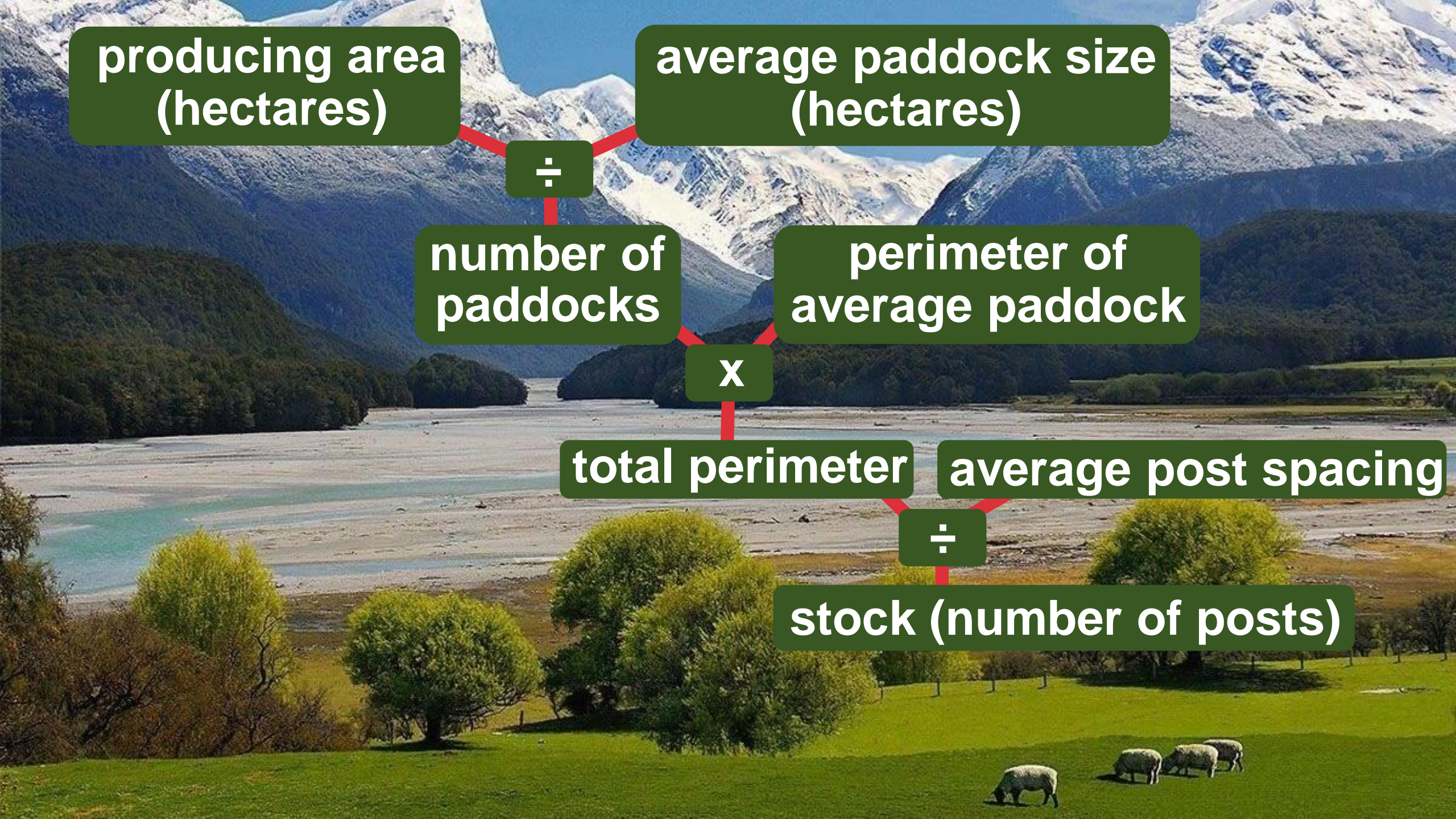
x

total perimeter

average post spacing

÷

stock (number of posts)



producing area
(hectares)

average paddock size
(hectares)

÷

number of
paddocks

perimeter of
average paddock

x

total perimeter

average post spacing

÷

typical post dimensions

stock (number of posts)

x

producing area
(hectares)

average paddock size
(hectares)

÷

number of
paddocks

perimeter of
average paddock

x

total perimeter

average post spacing

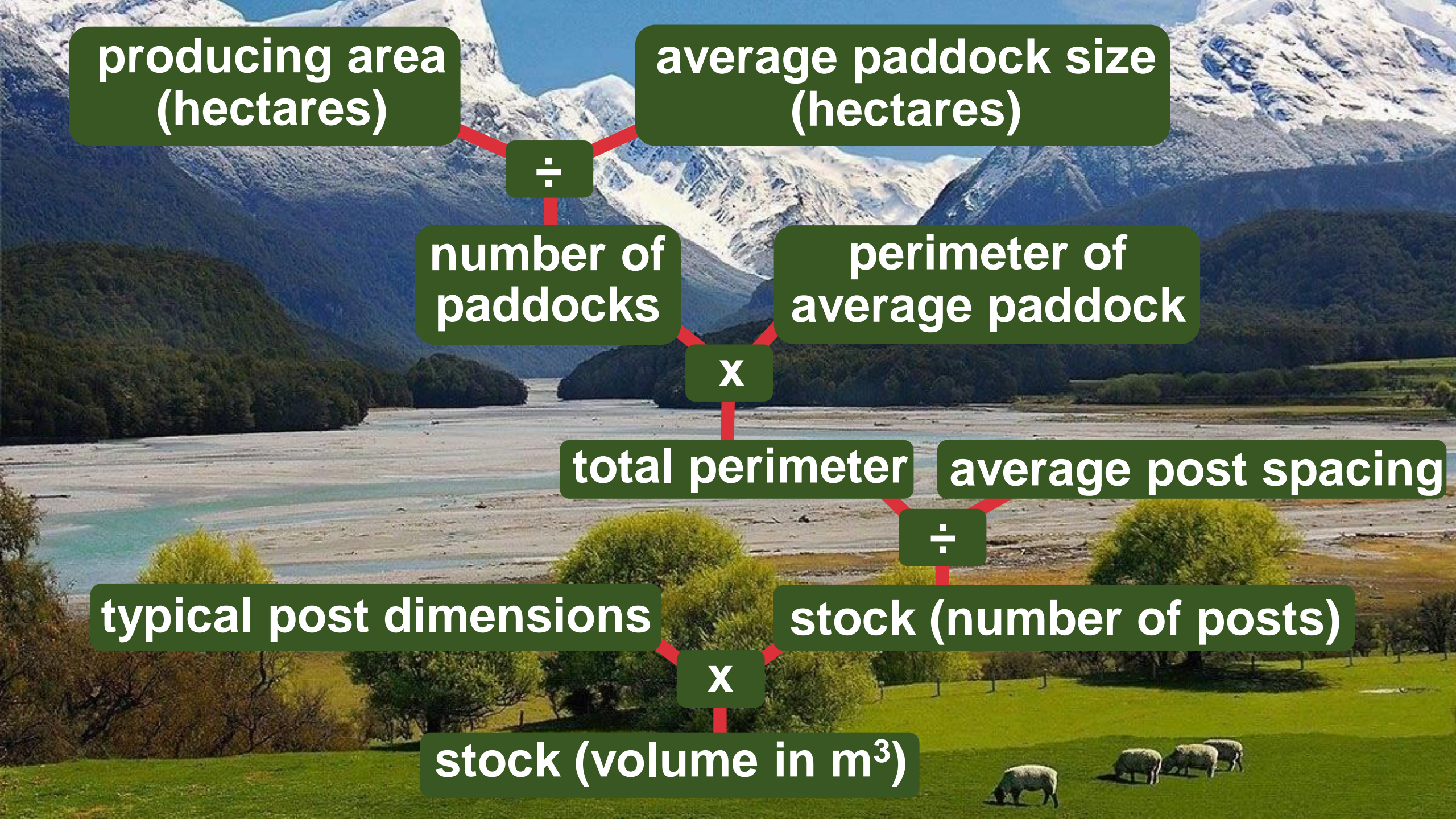
÷

typical post dimensions

stock (number of posts)

x

stock (volume in m³)



producing area
(hectares)

average paddock size
(hectares)

÷

number of
paddocks

perimeter of
average paddock

x

total perimeter

average post spacing

÷

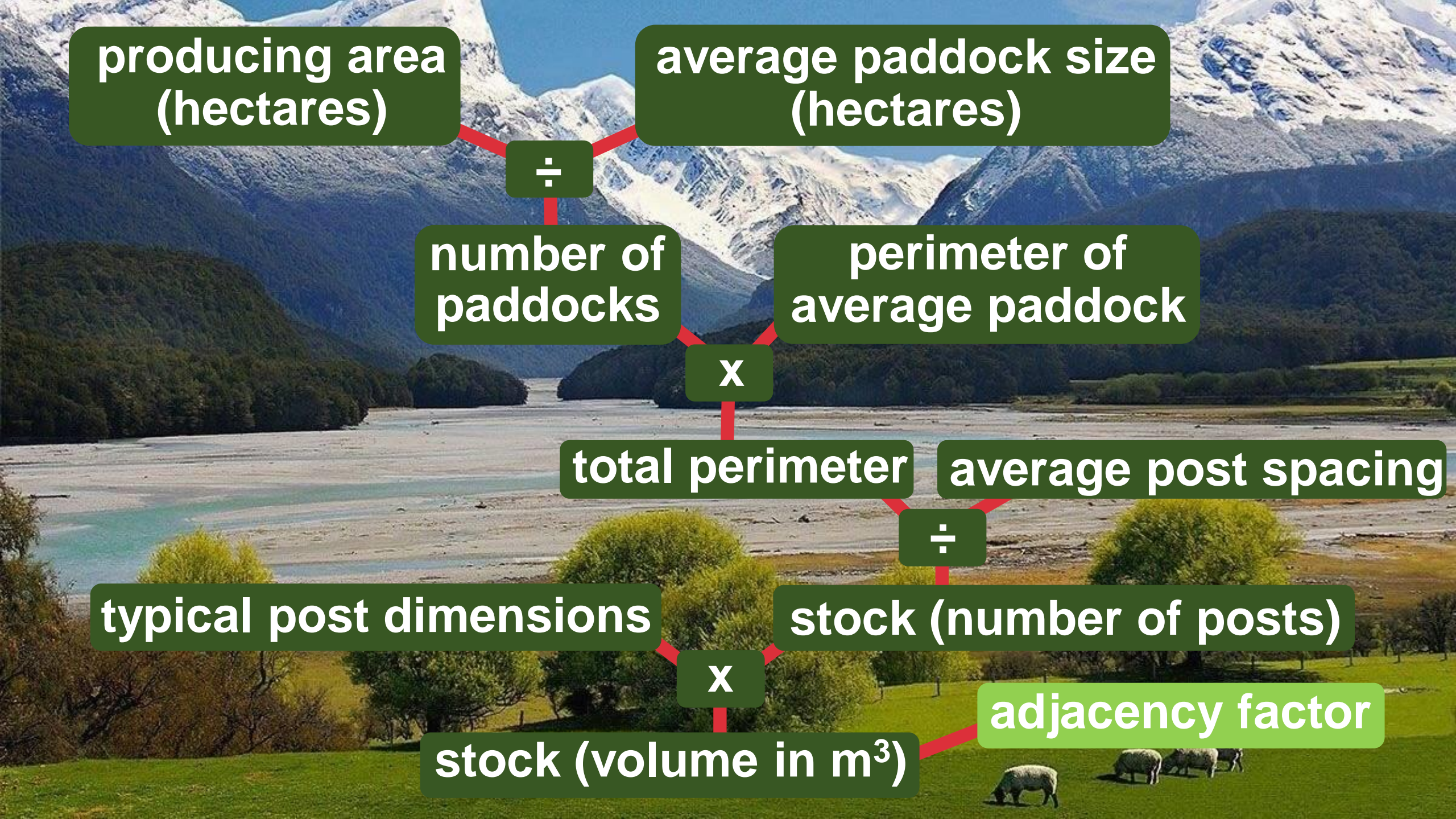
typical post dimensions

stock (number of posts)

x

adjacency factor

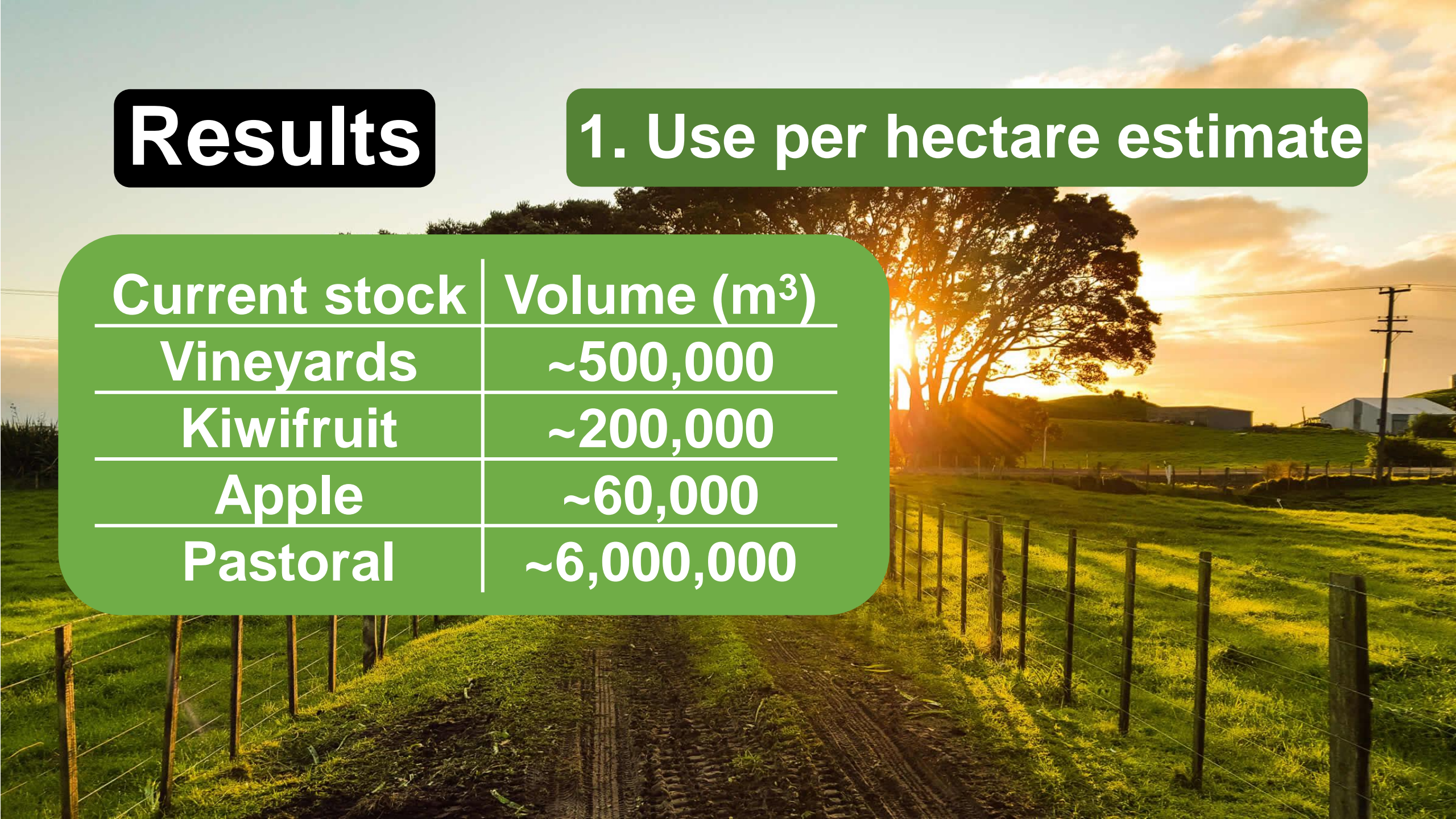
stock (volume in m³)



Results

1. Use per hectare estimate

Current stock	Volume (m ³)
Vineyards	~500,000
Kiwifruit	~200,000
Apple	~60,000
Pastoral	~6,000,000



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Pastoral	~6,000,000

Total:
~6.7 million m³

Annual market demand (m³/yr)

1. Use per hectare estimate

	Replacement	Expansion	Total
Vineyards	20,270	5,460	25,730
Kiwifruit	1,530	4,000	5,530
Apple	1,680	6,940	8,620
Pastoral	238,510	7,500	246,010
Total	261,990	23,900	285,890

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Results

2. Manufacturers' estimate

2 estimates based on CCA use:

~310,000 m³/yr

~270 to 300,000 m³/yr



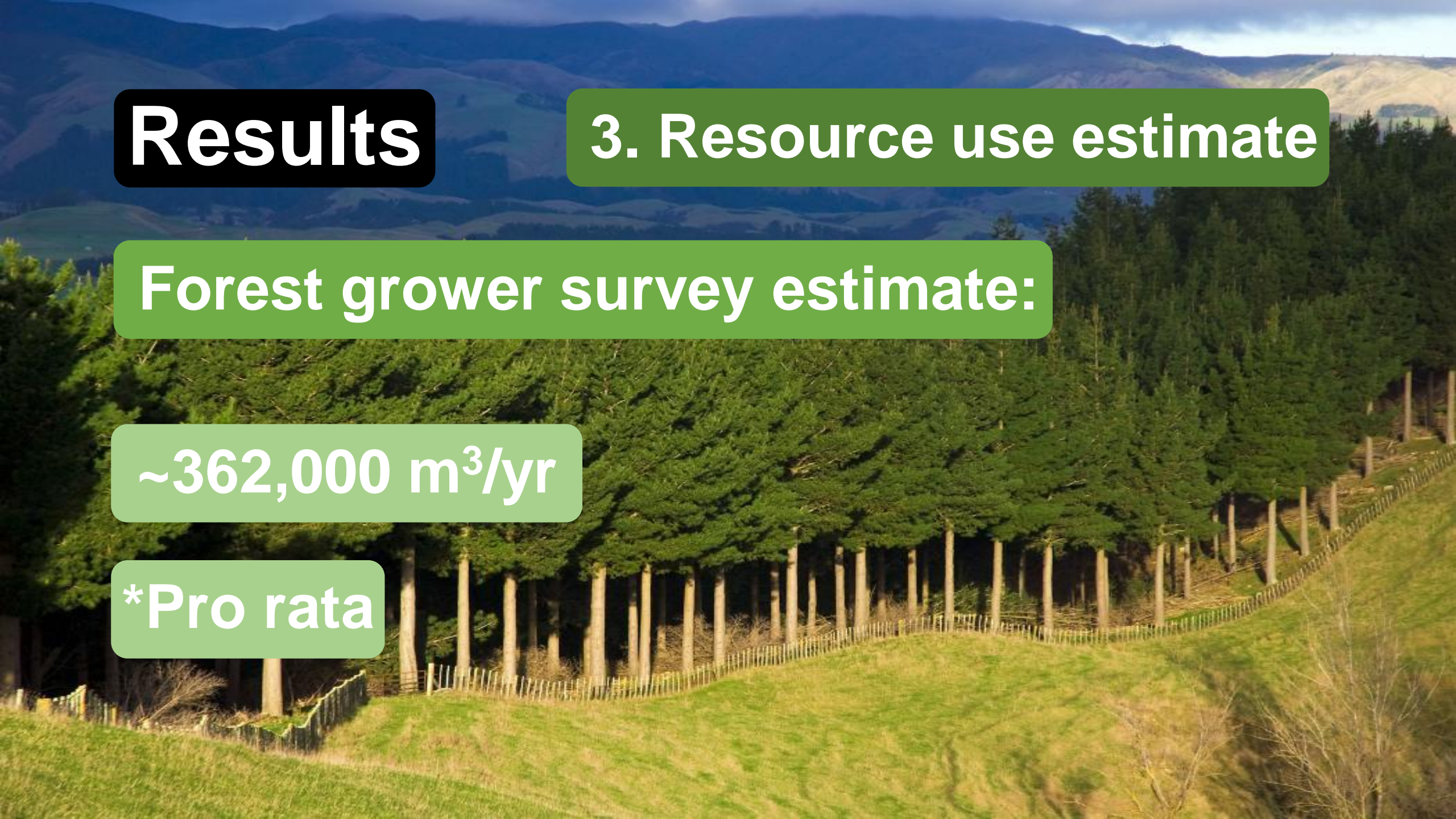
Results

3. Resource use estimate

Forest grower survey estimate:

~362,000 m³/yr

*Pro rata



Results comparison

Use per hectare estimate

~286,000 m³/yr

Manufacturers' estimate

~270 to 310,000 m³/yr

Resource use estimate

~362,000 m³/yr

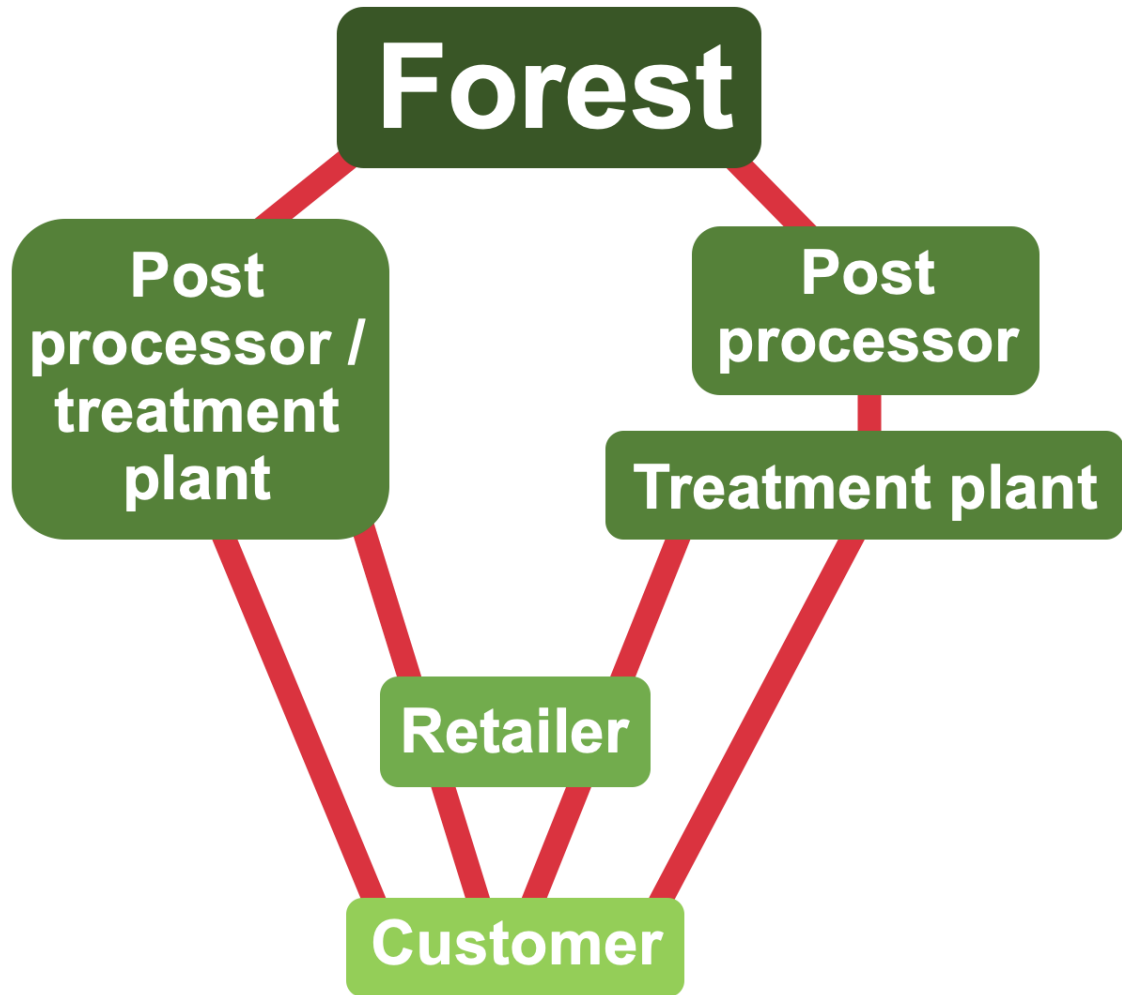
Organic sector (m³/yr)

	Replacement	Expansion	Total
Vineyards	1,400	380	1,780
Kiwifruit	60	150	210
Livestock	3,700	120	3,820
Total	5,160	650	5,810

Organic sector (m³/yr)

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Flow chart



Forest grower surveys

Product description	Length (m)	Small end diameter (cm)	Other
Small industrial log Roundwood Postwood Small sawlog	3.6 to 14	6 to 28	Knot size <7 cm (some cases <12 cm) Sweep 25% of SED No wobble No sapstain Free of disease, rot, fungus, insect infection, dead wood

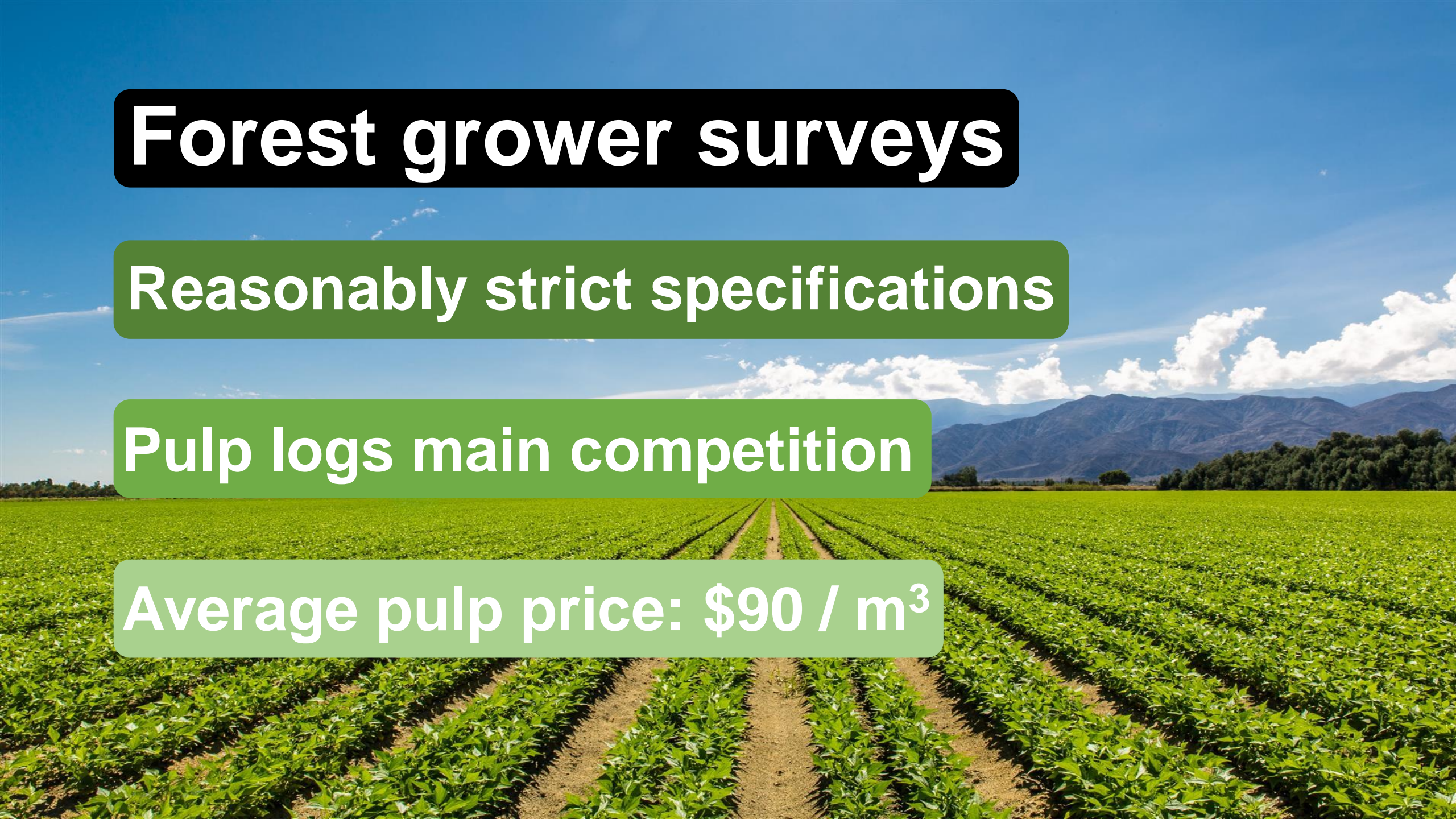
\$80 to \$125 / tonne

Forest grower surveys

Reasonably strict specifications

Pulp logs main competition

Average pulp price: \$90 / m³





Discussion

Market for small dimension logs

CCA Liability

Market for alternative products



Acknowledgements

My supervisors

Expert commentators

Survey responders

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Thank you

Any questions?