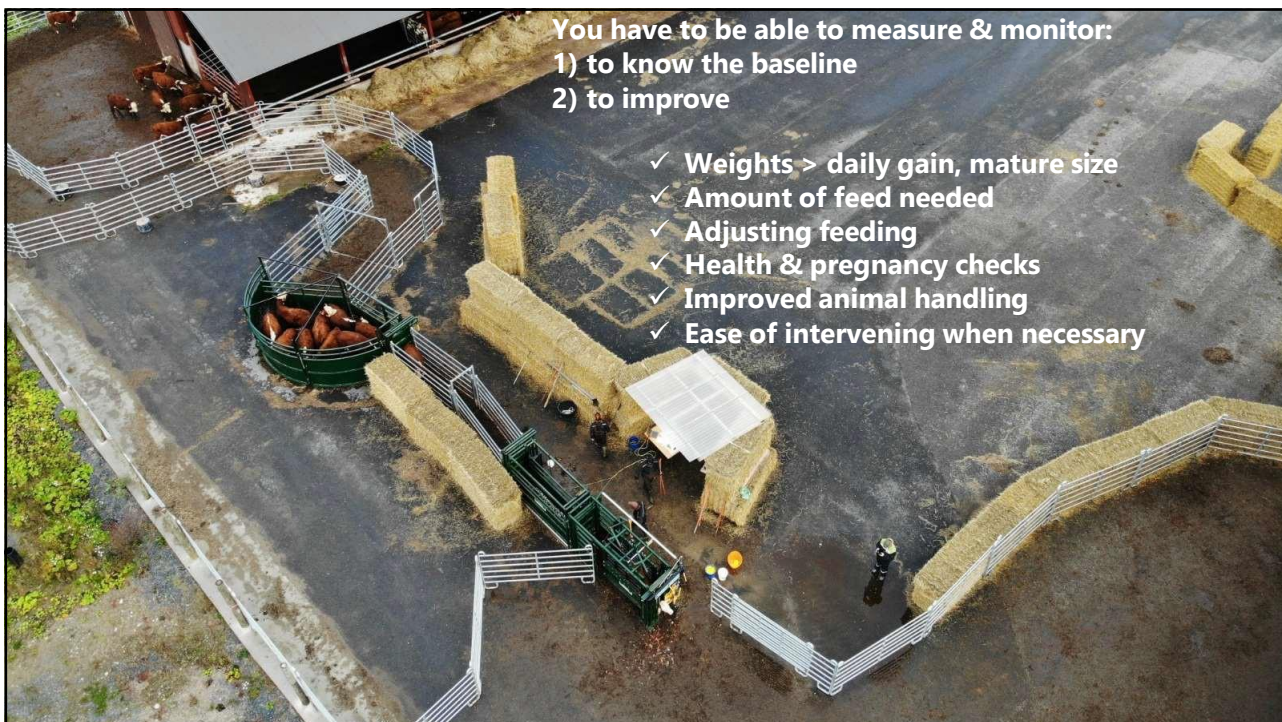


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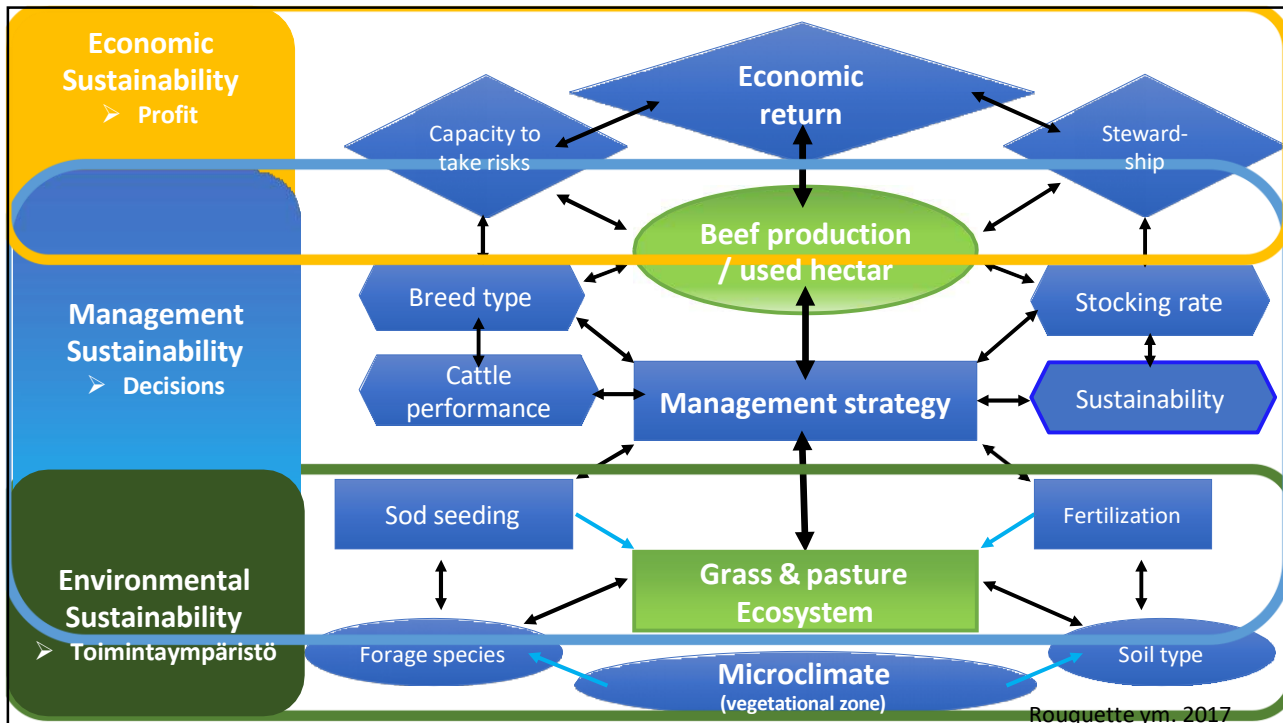


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### Who is your client?

Client	Product offered	Product pursued for	What affects the result and customer satisfaction
The producer himself	Replacement heifer, breeding bull	Long lasting, functional beef cow or breeding bull	Choosing genetics which work in your own production environment
Another producer	Replacement heifer, breeding bull, beef cow	Long lasting, functional animals, without any additional risks	Offering carefully thought and discussed genetics that bring added value to the purchasing farm
Broker/dealer/auction	Weaned beef calf	Healthy, easily growable calf	Investing in growth traits, using crossbreeding, aiming for consistent beef calf quality = Calf that is profitable to be reared
Slaughter house	Slaughter cattle (bulls, heifers, cows)	Good quality carcass	Producing slaughter carcasses that meet the criteria of the slaughterhouse (slaughter weight, conformation, fat class) = Investing in genetics and feeding
Direct sales customer	Best quality beef	Experience and eating quality	Investing in marketing, providing an experience
<b>Consumer</b>	<b>Best quality beef</b>	<b>Tenderness, taste, consistent quality</b>	<b>High quality product that the consumer knows how it is produced. And will confidently purchase again.</b>
<b>Environment</b>	<b>Conservation of biodiversity</b>	<b>The lowest possible environmental impact</b>	<b>Beef produced efficiently, responsibly and maximizing the farm resources</b>

3



4

## As a beef cow producer you are essentially a grass farmer!

- **In grass based based beef cow production calving season is timed with grass growth rythm**
- The whole herd should be in the peak of the production when the grass growth is fastest (Cottle & Kahn 2014)
  - Beef cows in the highest phase of milk curve (approx. 60 days from calving)
  - Calves old enough (at least 2-3 months) to eat plenty of grass
- Feeding optimized quality grass silage in different production phases reduses feeding costs
- **A beef production farm (beef cow and finishing farms) should be selfsufficient in needed yearly forage amount!**
  - **Beef cow feeding should be fed forage only diets**
  - **Young stock should have diet sufficient to their nutrient need**
  - **Digestable silage should be the base of finishing diets**

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## Foragestrategy – what is the cost of your forage?

### 1. Increasing the grass production yield

- When the yield is increased **less forage production area is needed**

### 2. Invest in a good-quality, suitable crop

- Less purchased feed is needed, less waste

### 3. Grazing is the cornerstone of beef cow production

- Production goal should be enhancing grazing efficiency
- The better the grazing results, the less harvested forage & feeds are needed

### 4. The aim should be on forage selfsufficiency

- Feed inputs purchased outside to the farm increase especially nutrient wastage, soil acidification, nitrogen leaching etc. In beef cow production (Soteriades ym. 2019)

### • Use a wide variety of grass plants

- At least 4-5 different perennial grasses or legumes
- Make effective use of nitrogen fixation of the legumes
- Plants with deep and dense roots
- Mixed crops
- **Versatile mixtures increase biodiversity**

### • Year-round vegetation cover

- **Plants sown in autumn (e.g. rye, triticale)**

### • Take care of the density of the vegetation

- Harvest long into long enough stubble
- If necessary use sod seeding
- Aim for long lasting, high yielding grasses leys

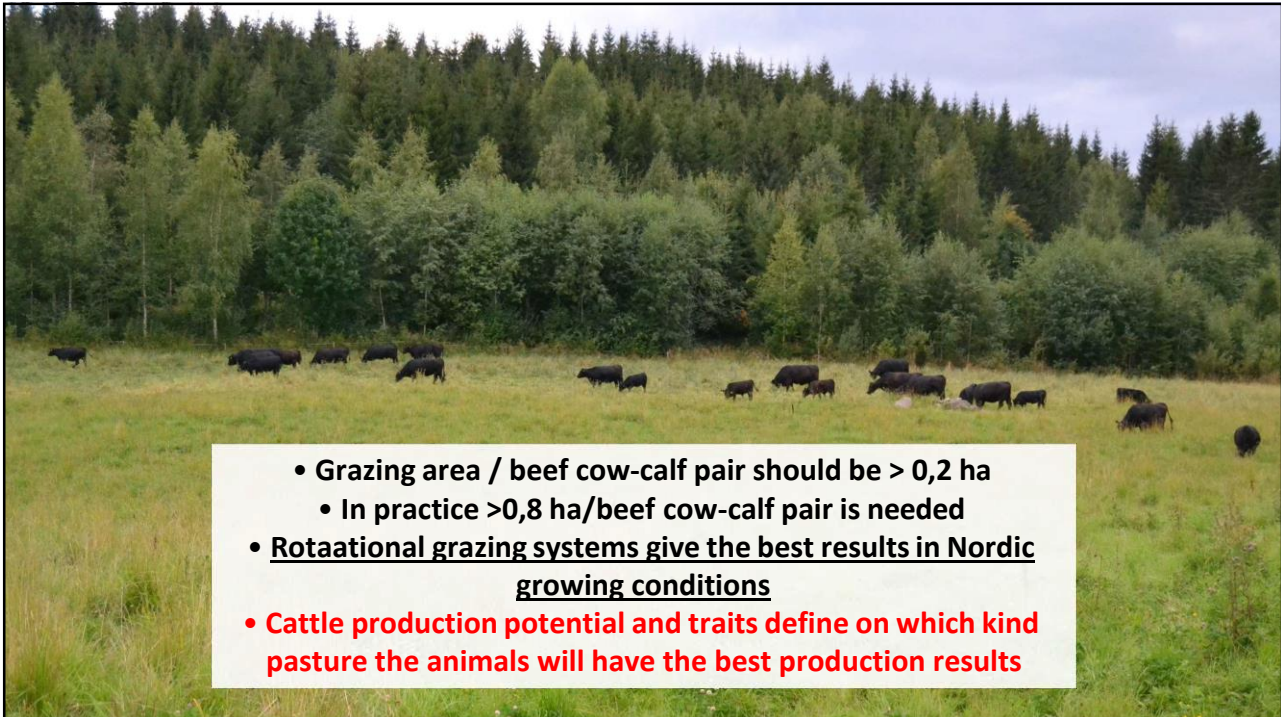
### • Take care of the growth condition of the land

### • Use effectively the manure nutrients

### • Avoid overgrazing

- Use pasture rotation
- Pay attention animal density/area

6



- Grazing area / beef cow-calf pair should be > 0,2 ha
  - In practice >0,8 ha/beef cow-calf pair is needed
- Rotaational grazing systems give the best results in Nordic growing conditions
- **Cattle production potential and traits define on which kind pasture the animals will have the best production results**

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- Grazing potential 5000-3200 kg DM/ha
- Lenght 30-35 cm
  - Optimal starting lenght
  - On the second round the staring lenght drops around 10 cm
- The grass "bends", no flowerings



- Grazing potential 2000 kg DM/ha
  - Grass density will effect the grazing potential
- Lenght approx. 8 cm
  - This kind of ley would need an additional 14 days growth period so that the photosyntesis does not drop



- Grazing potential under 1000 kg DM/ha
- Lenght 4-5 cm
  - The cattle cannot graze enough, grass is too short
  - Beef cows loose condition score, calves can be ok
  - Grazing time will increase

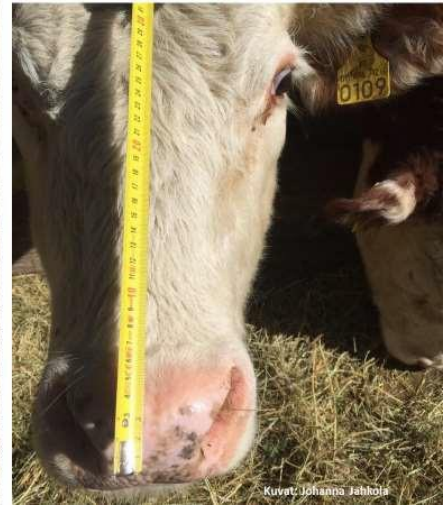


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**The grazing length should be kept in 8-10 cm**

**The final grass ley length >10cm**, when there are **young and/or inexperienced grazer**

**The final grass ley length**, when there are **experienced older beef cows** (customed to grazing practices)




**Attention!**

**Natural and forest pastures + 4-5 cm** (recommended final height ~15 cm), because the vegetation is usually sparser, more diverse and more rapidly losing digestibility than in cultivated pastures

- The profitability of grazing is based on provision of the sufficient and digestible grass growth for the grazing animals
- The grass collected by the animal is usually more affordable than mechanically harvested
- Investment in efficient grazing = less harvested forage + less fossil fuels

- **Group 2**
  - 18-20 ha
  - 9-10 pastures
  - 25-27 beef cow calf pairs + 10 heifers
- **Group 1**
  - 12-16 ha
  - 5-6 pastures
  - 20-23 beef cow calf pairs + 7 heifers

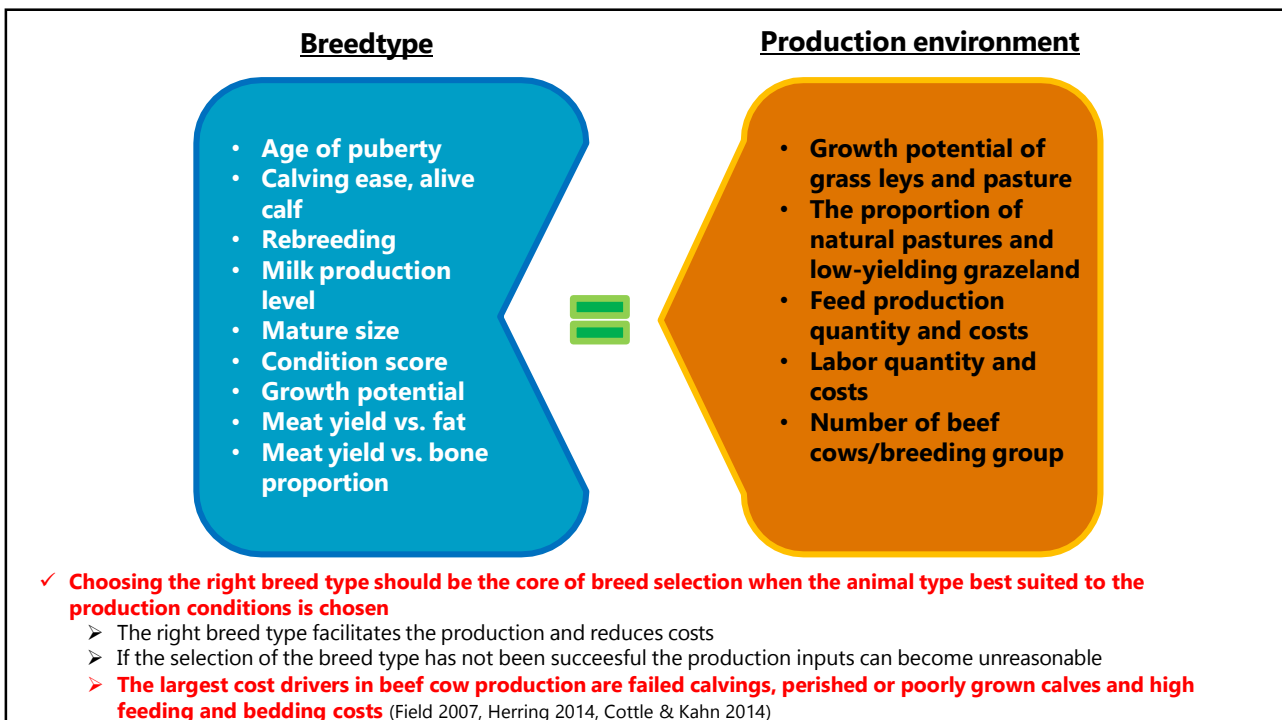
**The production goal is one calf / beef cow / every year – at the same time**  
**The goal is to maintain the fertility of the cow**



- Weaning weight 300 kg
- Weaning age 200 days
- The growth should be 1300 g/d or over
- The aim is high productivity / used ha

- Milk production
- Pregnancy
- Condition score

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## **When choosing a breed type, attention should be paid to :**

- 1) The selected breed type is suitable for the production conditions and they produce the best possible result
- 2) Reproductive efficiency must be maintained in the selected production environment
- 3) The adult size and production traits are suitable for the production environment

## **Biological efficiency**

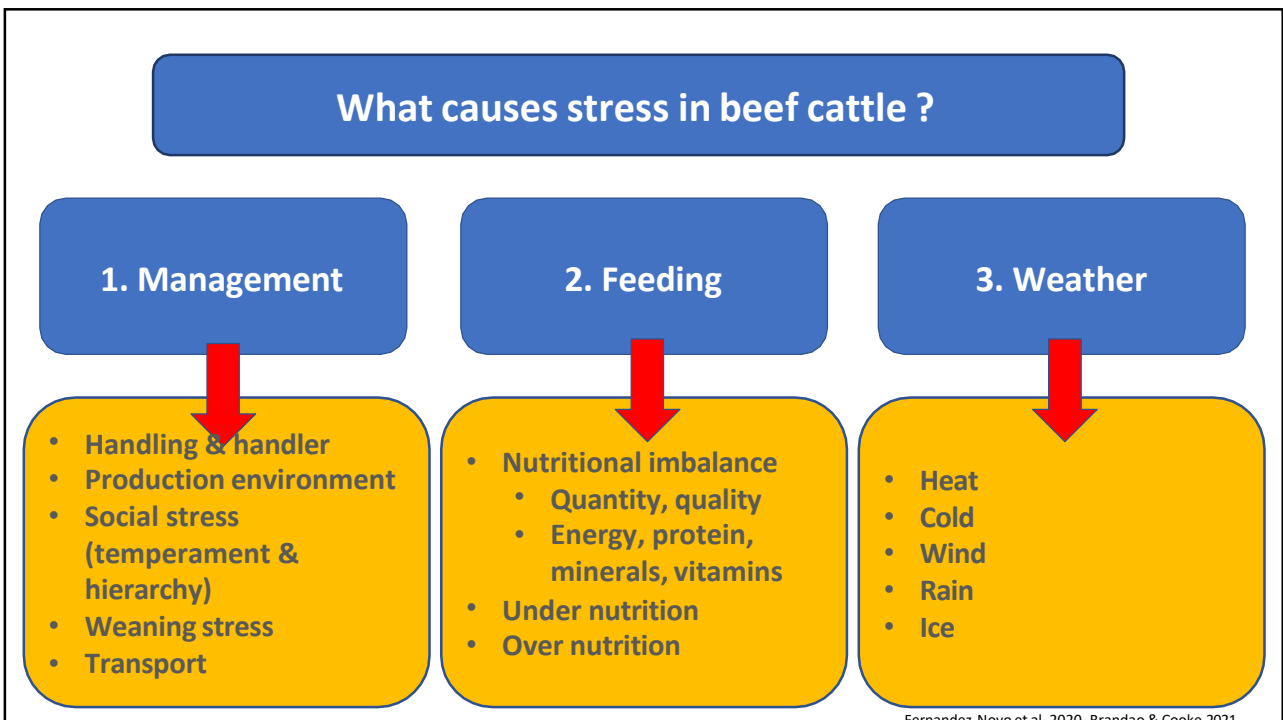
- **The ability to convert the offered feed inputs in the selected production environment into a marketable product eg. Calf or beef** (Notter 2002)
  - Mahdollisuus verrata emolehmän biologista tehokkuutta ja (jälkeläisen) kasvua erikseen
- **In beef cows biological efficiency can be measured by a ratio which is calculated from calf's weaning to the amount of dam's DMI** (Jenkins & Ferrell 2002)
- In practice the ratio is easiest to calculate based on the live weight of the dam and the weaning weight of the calf = dam's DMI is strongly correlated to the liveweight (Johnson ym. 2010)
- **Each dam should wean a calf which weighs at least 50 % of its dam liveweight in 6-8 months of age** (Field 2007, Cottle & Kahn 2014)
- The manifestation of biological efficiency is influenced by the **genetics and feeding**
- **Reproduction traits** are part of biological efficiency
- Puberty age and duration of post-partum infertility are moderately heritable (Herring 2014)
- **Feeding affects how these traits are shown in the herd** (Jenkins & Ferrel 1994, Cottle & Kahn 2014)
  - The reason for the lower biological efficiency is the seasment of the estrus cycles when the feeding does not meet the needs for the nutriens (Nugent ym. 1993)
  - The failure in feeding is observed especially in late puberty in heifers, low conception rates and unsuccessful calvings, if the intake of the nutrients has been low the heifer's growth throughout the growing period is limited (Patterson & Smith 2013)
- Biological efficiency includes **keeping the beef cow mortality as low as possible**
  - Breed variation (Ring ym. 2018)
- Cattle succes is affected by:
  - Balanced nutrient intake,, preventive animal healthcare and retaining calving ease (Cottle & Kahn 2014, Gates & Woolhouse 2014, Herring 2014, Ring ym. 2018)

## Planned crossbreeding

**Crossbred animal is ONLY as good as its' pure bred dam and sire**

- Dams crossbred, two maternal breeds (abxhf or abxsi or hfxsi) and terminal sire (ba, li, ch)
- Dams, three breed crossbred and terminal sire
- Heterosis = positive effect on low heritable traits **fertility, hardiness and resilience**
- The progeny will have added growth and carcass traits
- Planned crossbreeding will enable to keep the beef cow traits consistent = adult size, maternal traits, milk production, breed type suitability to farm conditions

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