FASILITAS DAN PERALATAN PETERNAKAN SAPI POTONG PADA SISTEM EKSTENSIF

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Terminologi

- ***Animal unit*** **:** 1,000 lb. (± 500 kg) cow with calf
- ***Stocking Rate*** **:** the number of animals on a given amount of land over a certain period of time. Generally expressed as animal units per unit of land area
- ***Carrying Capacity*** **:** the stocking rate that is sustainable over time per unit of land area
- ***Over-grazing*** : grazing yang berlebihan disebabkan persediaan pakan yang lebih sedikit (under stocking) dengan jumlah ternak yang digembalakan sehingga terjadi eksploitasi padang rumput/pastura secara berlebihan
- ***Under grazing*** **:** grazing yang mana persediaan pakan yang lebih banyak (over-stocking) dengan jumlah ternak yang digembalakan sehingga terjadi under eksploitasi padang rumput/pasture.
- ***Corral :*** fasilitas untuk mengumpulkan, menangani ternak dan perawatan kesehatan
- ***Paddock*** *:* sub-division of pasture (sub-pasture)

SISTEM PEMELIHARAAN EKSTENSIF

- Sistem pemeliharaan berbasis padang penggembalaan
- Potensi lahan luas : peningkatan populasi sapi
- *Grazing* : lahan kurang produktif ; mengurangi *feed cost ; konservasi lingkungan*
- *Grazing plan / system* : optimalisasi pemanfaatan biomassa
  stocking rate & carrying capacity : sustainability
- *Under vs over grazing :* kualitas dan produktifitas biomassa
- Kebutuhan harian ternak : 2-4 % BK
- Desain fasilitas dan kebutuhan peralatan

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Daya Dukung Kawasan Hutan, Perkebunan, Tanaman Palawija untuk Ternak Sapi daging di Indonesia

Jenis tanaman/limbah	Luas (ha)	Daya Tampung ternak (ST)
a. Hutan Daratan[1]	133.694.685	**20.447.000***
b. Perkebunan[2]		
Kelapa Sawit &HAT	**12.307.677**	18.830.746
Kelapa &HAT	3.544.393	6.805.235
Karet &HAT	3.672.123	4.737.039
Total	**19.524.193**	**30.373.019**
c. Hortikultura[3]		
Jerami Padi	15.156.952	17.430.495
Jerami Jagung	4.444.343	9.733.111
Limbah Kedele	576.987	473.129
Total	**20.178.282**	**27.636.735**
d. Padang Penggembalaan [4]	4.000.000	**5.000.000**

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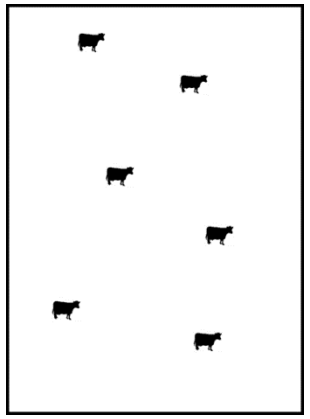
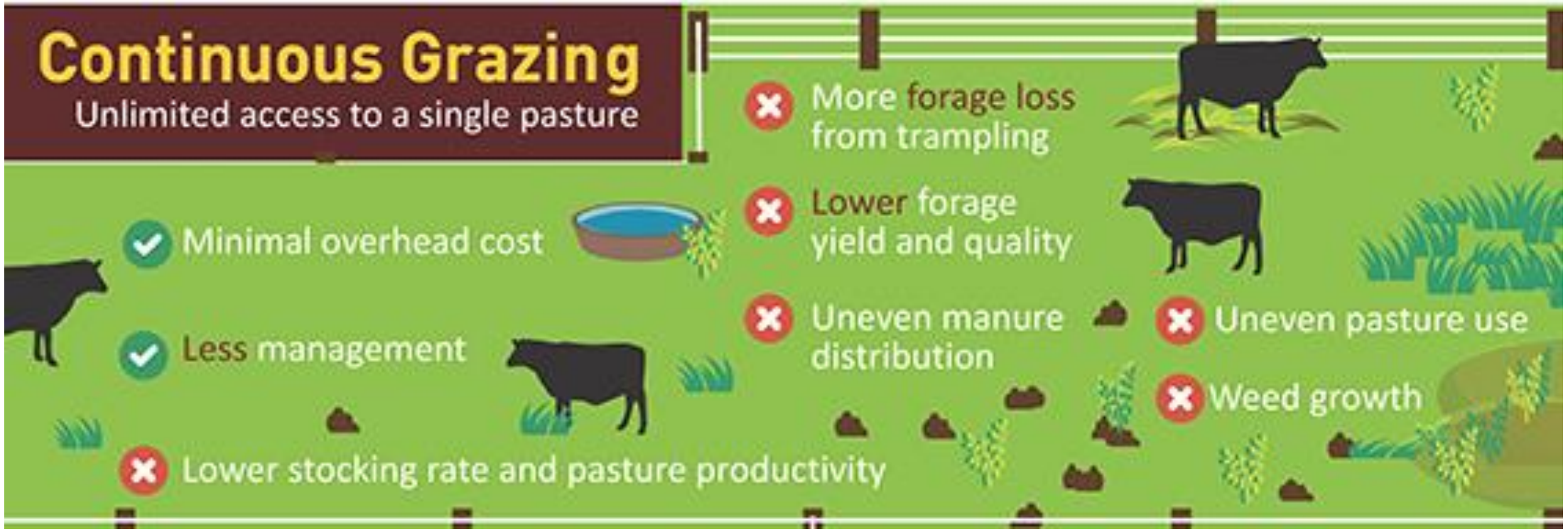
Grazing System

1. Continuos Grazing

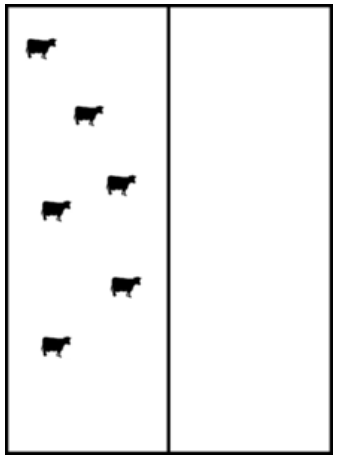
A one-pasture system where livestock have unrestricted access throughout the grazing season





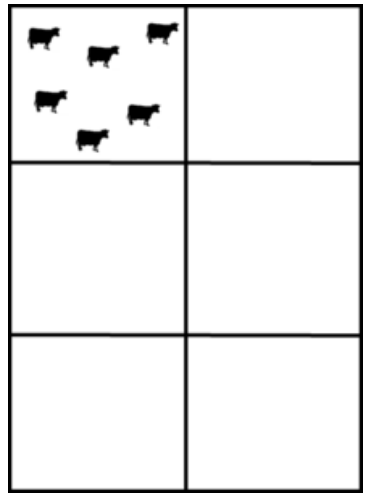
2. Simple Rotational Grazing

A system with more than one pasture in which livestock are moved to allow for periods of grazing and rest for forages



3. Rotational Grazing

A system with many pastures sometimes referred to as paddocks. Livestock are moved frequently from paddock to paddock based on forage growth and use



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Titik Kritis pada *Grazing System*

1. Kegiatan penyemprotan dengan pestisida.
2. Binatang liar disekitar lokasi penggembalaan
3. Pemasangan perangkap hewan liar (ex. : babi) untuk daerah perburuan.
4. Kondisi hijauan pada padang penggembalaan. Beberapa kondisi padang penggembalaan : Over-grazing vs Undergrazing
5. Kondisi cuaca : kualitas dan kuantitas hijauan (strategi pengawetan hijauan).
6. Kondisi padang penggembalaan : lobang, parit, lumpur (ternak luka, cidera, mati).
7. Kondisi kelahiran pedet yang tidak terkontrol (resiko kematian).
8. Kondisi pagar : ternak lepas & merusak lahan

KOMPONEN PADA SISTEM PENGGEMBALAAN

- *Landscape*
- Hijauan (biomassa)
- Ternak
- Air
- Pagar & naungan
- *Corral* (handling system & facility)

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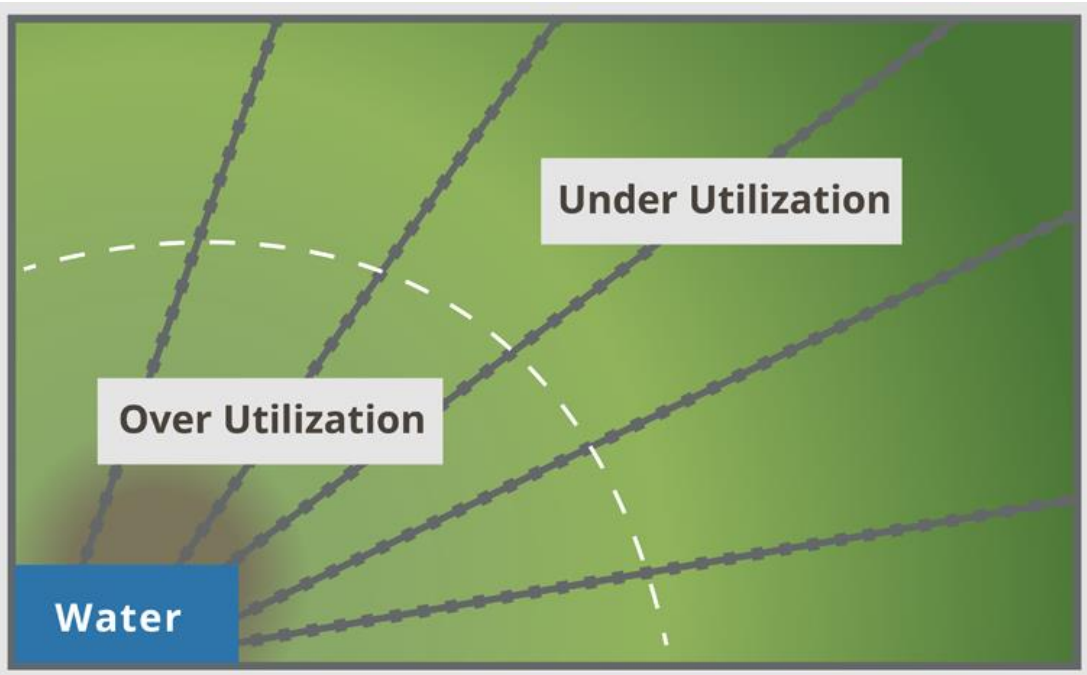
PANDUAN *LAYOUT & DESIGN* FASILITAS DI PADANG PENGGEMBALAAN

- **Pastikan ternak dekat dengan sumber air (± 200-250 m)**
  - ✓ **Meningkatkan aktivitas dan distribusi *grazing***
  - ✓ **distribusi manure lebih seragam**
  - ✓ **Konsumsi air meningkat**

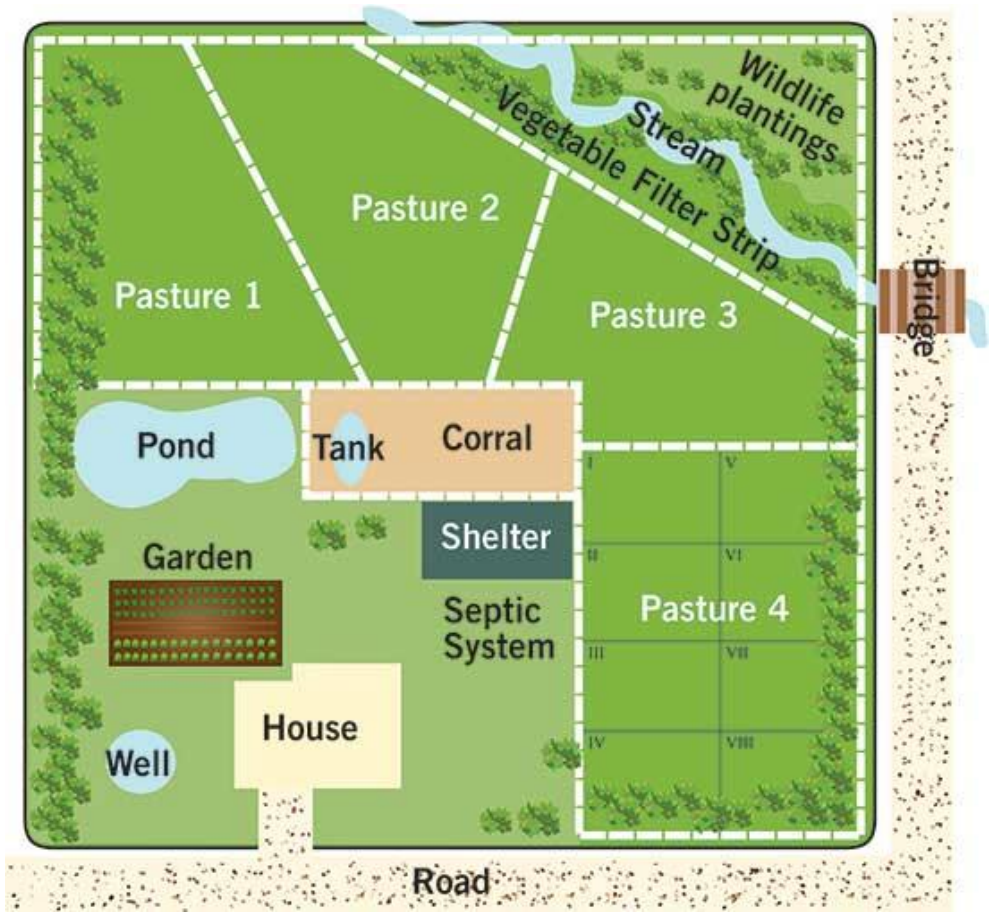
- **Sebisa mungkin *paddock* berbentuk bujur sangkar**
  - ✓ **Kebutuhan pagar lebih sedikit**
  - ✓ **Ternak biasanya berkerumun dekat sumber air**
  - ✓ **Distribusi *grazing* lebih merata**

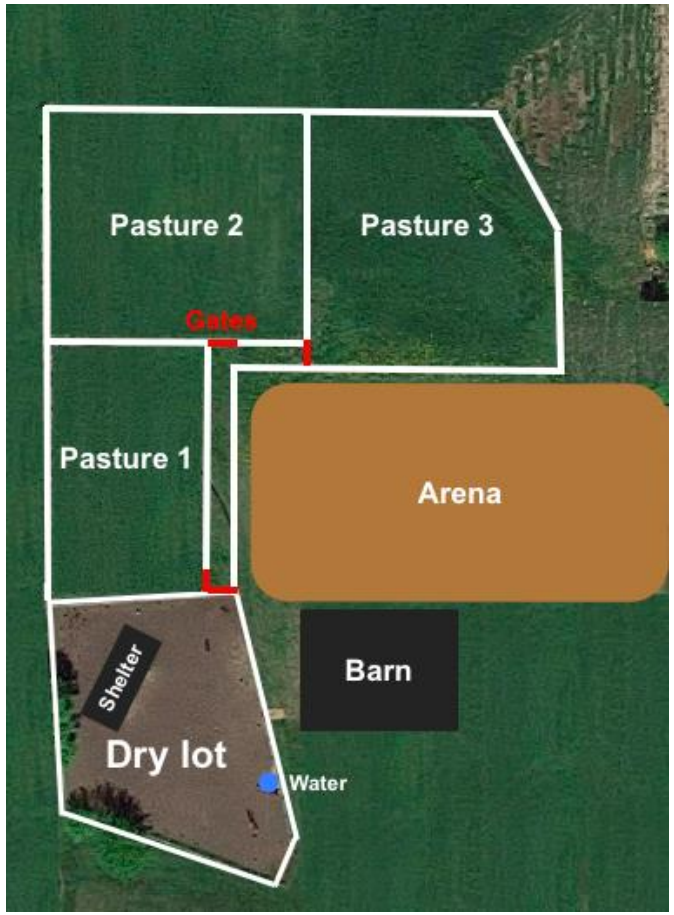
- ✓ More uniform grazing
- ✓ Option to harvest surplus for hay
- ✓ Water is closer to stock



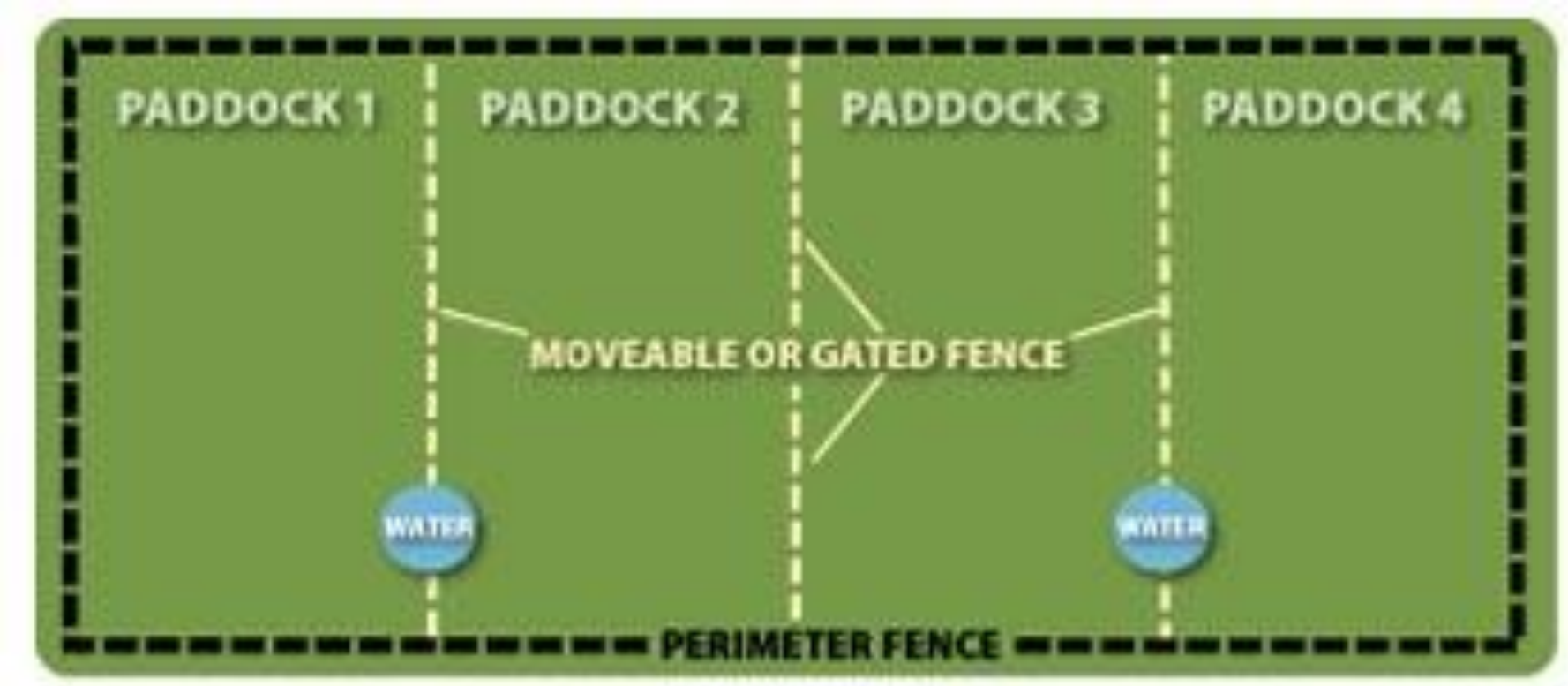
- ✓ More suitable for bush pastures
- ✓ Easy to construct
- ✓ Over utilized areas near water

- **Ikuti bentuk landscape lahan untuk batas paddock**
  - ✓ **Tipe tanah dan drainase**
  - ✓ **Topografi**
  - ✓ **Komunitas tanaman**
  - ✓ **Laju pertumbuhan tanaman**





- **Kapasitas grazing masing-masing paddock sama**
  - ✓ **Ketersediaan hijauan lebih konsisten**
  - ✓ **Memudahkan dalam rotasi**
  - ✓ **Menjaga periode istirahat paddock**



- **Jalur hanya untuk menggerakan ternak**
  - ✓ **Erosi karena jalur transportasi kendaraan**
  - ✓ **15-20% manure terdeposit di jalur**
  - ✓ **Konsumsi air 15% lebih tinggi jika disediakan bak air di paddock**
  - ✓ **Pergerakan ternak yg mudah = *less stress***

- **Sediakan fasilitas aman untuk latihan bagi ternak**
  - ✓ **Penggunaan kawat listrik : harus ada pembatas secara fisik**
  - ✓ **Pengalaman tersengat kawat listrik !**

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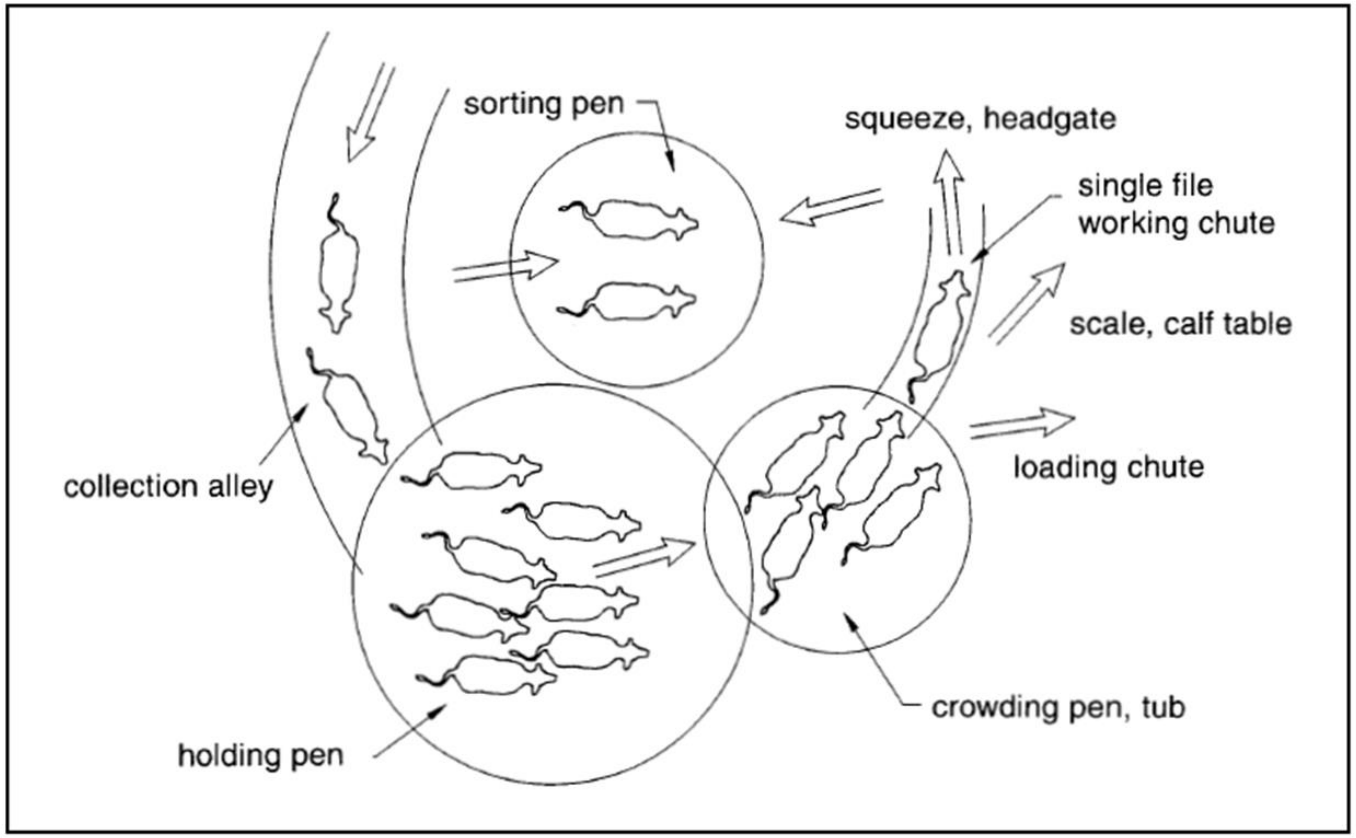
- **Rencana untuk antisipasi cuaca buruk**
  - ✓ **Kondisi paddock sangat basah atau kekeringan**
  - ✓ **shade : cuaca panas ekstrem**
  - ✓ ***Shelter* : cuaca ekstrem dingin**

Shade – good and bad

- Cattle tend to congregate under shade even when they don't need it
  - Time spent under shade reduces time spent grazing
  - Less grazing time results in less intake and reduced performance
  - Manure concentration vs. distribution
- Shade is probably needed to help reduce heat stress any time the heat index is 100 or above
  - Especially if livestock are grazing endophyte infected fescue

- **CORRAL : handling facility system**
  - ✓ **Fasilitas penanganan, pengobatan dan sortir ternak**
  - ✓ **Aspek *behaviour* dalam design**
  - ✓ ***Collection alley, sorting pens, holding pens, crowding pen, working chute, loading chute, squeeze / headgate, scale, AI***



The purpose of the handling system is to sort, handle and treat cattle.

For any number of cattle, the requirements of a handling system are:

- Collection alley to move cattle from the feedlot, pasture or barn to the holding pens. The collection alley can also be used as holding pen.
- Sorting pens opening off the collection alley. The sorting pen can also be located after the working area.
- Holding pens to hold either the whole herd in small operations or groups of 30 to 50 cattle for larger operations
- Crowding pen or tub to move small groups of eight to 10 cattle into the working area
- Single file working chute at least 20 feet long to hold three or four cattle at once.
- Loading chute
- Squeeze or headgate
- Options such as scales, dark box for artificial insemination (A.I.), calf squeeze or table…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Kriteria/indikator untuk menilai aspek *welfare* pada sapi pedaging :

- **Tingkah laku :** indikasi *poor welfare* (penurunan konsumsi pakan, *panting,* tingkah laku abnormal (stereotif, aggresif, depresif).
- ***Morbiditas :*** jumlah ternak yang sakit, cedera, pincang.
- ***Mortalitas*** *:* tingkat kematian.
- **Perubahan bobot badan (BCS)**
- **Efisiensi Reproduksi :** birahi, kebuntingan, aborsi, distokia
- **Penampilan fisik :** emasiasi, kusam, ektoparasit, dehidrasi
- **Respon *handling* :** sapi jatuh, terpeleset, keluar-masuk kandang jepit, penggunaan kejut litrik, vokalisasi, cidera/patah tanduk/patah kaki, pincang, menabrak dinding pembatas/pagar

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Terima Kasih