

A wide-angle photograph of a vast field of yellow and white flowers, likely a meadow or pasture, stretching to the horizon under a clear blue sky with a few wispy clouds. The text is overlaid on the upper half of the image.

Choosing a seed mix

for equine welfare

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27 February 2013

Soils and grasses of the New Forest

- Poor often sandy soils in flat, gravelly areas
- Well-drained clay and loam soils
- Waterlogged, marshy bogs and mires (70% of the mires in northern Europe are here)
- Largest area of lowland heath left in Europe
- Acidic grasslands including purple-moor grass

Grazing studies of New Forest ponies

- Forage for 75% of time with minor seasonal variations
- Eat 83-92% grasses in summer, and 37-79% in winter (the rest shrubs and trees)
- 20% of diet is purple moor grass (scarcely touched by cattle)
- New growth of grass mostly removed immediately
- Spend 50% of their time on roadside and streamside grasslands, rather than wet heaths, bogs or acid grasslands
- Create latrines
- Selectivity declines as food availability declines
- Composition of diet correlated with productivity of grasses

Grasses in Britain

- Pasture and hay meadows
- Upland and lowland
- Wet, dry, fertile and infertile soils
- Disturbed and long-term swards
- Native mixed pasture: variety of grasses and herbs able to adapt to climatic conditions
- Agricultural mixes – often monoculture leys, also permanent pasture

“Semi-natural” grasslands

- If grass is unmanaged (not cut for hay or grazed), it reverts to woodland, the natural vegetation cover of Britain
- Grassland which is *only* cut or grazed (or in some cases burned) is termed “semi-natural” and is often species-rich
- This type of grassland is rare and valuable, and needs protecting
- Do not introduce seed into existing species-rich grasslands, or into areas immediately beside them, unless it is of local provenance
- Do not “improve” semi-natural grasslands by use of fertilisers, spraying, drainage, rolling etc.

Agricultural grasses

- Chosen because they are
 - palatable (to sheep and cattle)
 - nutritious
 - productive
 - easy (and cheap!) to grow
 - easy to manage in monoculture
- Bred for
 - growth type
 - heading dates
 - sugar content
 - response to fertiliser
- Now mainly ryegrass (sown with or without white clover)



Horses' requirements

- High fibre
- Low sugars - particularly fructans?
- Generally no need for high protein
- Long grazing season, including winter green
- Withstand treading – turf forming
- Often more important to restrict nutrition rather than increase it

“Palatability” tests

- Linnaeus – horses only accepted 19% of 262 species offered; cattle 56%, sheep 64%
- Historical observations: birdsfoot trefoil, vetches; mixed, semi-natural, unmanured
- Elliot, Clifton Park; George Stapledon – influential grassland researchers, but not horses
- Archer 1970s: extensive experiments showing mixtures of grasses and herbs preferred over single species
- Studies of native ponies worldwide

Clifton Park mixture

- Crested dog's tail
- Smooth meadow grass
- Fescues
- Cocksfoot
- Yellow oat grass
- Red & white clover
- Hop clover
- Birdsfoot trefoil
- Kidney vetch
- Lucerne
- Ribwort plantain
- Yarrow
- Burnet
- Sheep's parsley
- Chicory

Stapledon's herb strips

- Elliot's herbs

plus

- Caraway

- Catsear

with

- Ryegrass

- Timothy

- Cocksfoot



Archer's experiments (1)

- Ryegrass
- Cocksfoot
- Tall fescue
- Meadow fescue
- Timothy
- Red fescue
- Crested dogstail
- Rough & smooth meadow grass
- Meadow foxtail
- Common bent
- Ribwort plantain
- Yarrow
- Chicory
- Sheep's parsley
- Burnet
- Red & white clover
- Kidney vetch
- Sainfoin
- Dandelion

Archer's experiments (2)

- Horses prefer a mixed sward
- They may prefer different plants at different growth stages
- Individual horses have strong preferences, which may be learned
- Different varieties of the same species may be preferred
- *Preference is not linked to what is beneficial – sweet and bitter are important*
- *Preferences are different to sheep and cattle*

Grasses for horses

- **Crested dog's tail**
- **Red fescue – creeping and Chewings**
- **Timothy – small leaved**
- **Smooth meadow grass**
- **Cocksfoot**
- **Meadow fescue**
- *Tall fescue*
- *Creeping bent*
- *The right varieties of ryegrass*
and many other grasses which occur naturally

















Grasses for hay

- **Ryegrass (including Italian)**
 - **Timothy**
 - Meadow fescue
 - Red fescue
 - Smooth meadow grass
 - Cocksfoot
 - *Sweet vernal grass*
 - *Crested dog's tail*
 - *Common bent*
- and many other grasses which occur naturally



Ryegrass has been developed specifically for sheep and cattle, to provide high carbohydrates for producing milk and meat. High sugar ryegrasses are included in horse pasture seed mixes.

If you are not sure what type of ryegrass you are using, avoid it. Italian ryegrass is also high in sugar.







Herbs, forbs, broad-leaved plants – weeds!

- **Yarrow**
- **Ribwort plantain**
- **Birdsfoot trefoil**
- **Red, yellow (& white) clover**
- **Catsear**
- *Knapweed*
- *Lady's bedstraw*
- *Rough hawkbit*







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Mixes

- To persist as permanent pasture, a natural grassland association is required
- If left without fertiliser, many lowland grasslands will revert to a suitable horse mix – over time!
- Example of a semi-natural neutral pH grassland: ryegrass, crested dogstail, white clover, red fescue, creeping bent, catsear, timothy, ribwort plantain, cocksfoot, dandelion, yarrow, red clover, meadow fescue, knapweed
- Test your soil!!

Advantages of a mixed sward

- Long growing season, adapts to climatic conditions
- Higher fibre, lower sugar
- Horses need to move and select
- Sustainable
- Better for wildlife and the environment

Disadvantages:

- You need more of it!
- It needs more careful management

Your horse will thank you for it

