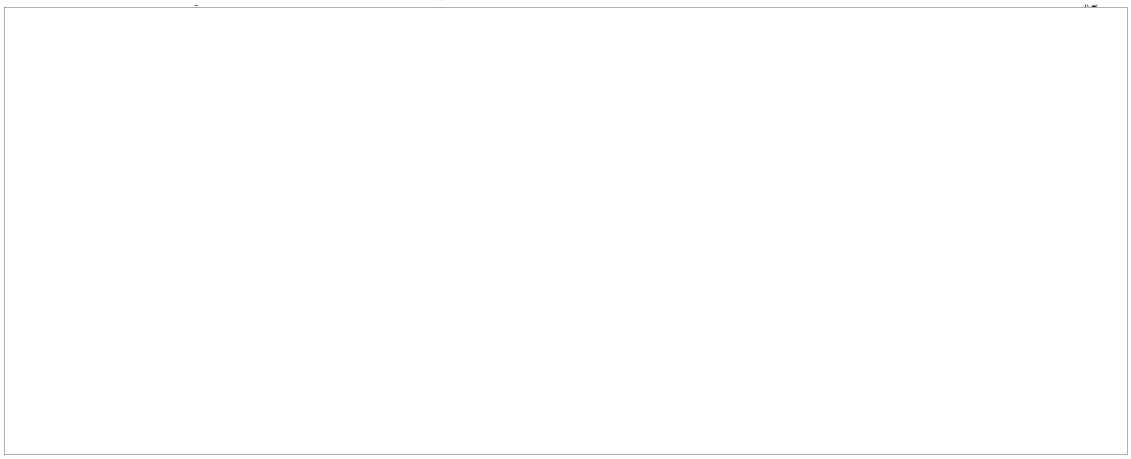
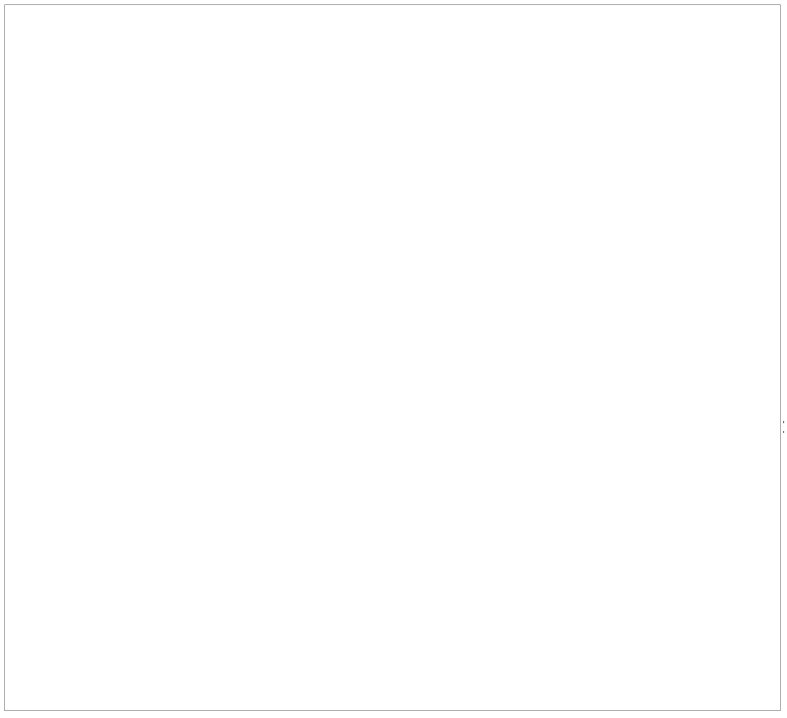


STAT

THE HYGIENE OF PASTURING ANIMALS

author: Prof A. V. Ozerov

from the Book - Diseases of Agricultural Animals and Zoohygiene



STAT

THE HYGIENE OF PASTURING ANIMALS

Pasturing is of extraordinarily great significance for the health of animals. At pasture animals obtain light, digestible, nourishing fodder in the form of green grass, fodder which is rich in albumins and vitamins; the animals are also under the beneficial influence of the sun's rays and of the fresh air. Since they are in motion, the animals strengthen their muscles and skeleton, which is particularly important for young animals and breeding stock. At pasture young animals grow considerably more rapidly, and the sexual activity of males is increased. Pasturing also has a beneficial effect on pregnant animals, and, as a result, on the fetus developing in the mother's womb, as well as on the milk production of nursing females, which is important for the growth of the young which they are nursing.

Since they are subjected to changes in the weather, the animals acquire a great resistance to harmful atmospheric influences; that is to say they are hardened.

Pasturing is one of the best prophylactic measures against infection from tuberculosis, rickets, and other diseases.

Postnatal diseases are rare among animals which are kept on pastures.

If good pastures are not available, artificial pastures may be created by sowing fodder grasses, or existing pastures may be improved by other means.

If pastures are not available for breeding stock, it is necessary to build for them a large, enclosed area, either sown or

with grass already on it, and providing some protection against rain and heat. When used for horses should be long enough so that the animals may run about; an elongated shape is recommended for this purpose. For this purpose on horse farms sufficiently large areas are set aside with grass cover and surrounded by a high fence. These areas are called paddocks, which measure from 0.5 to 2 hectares, located near the stable; and levady, measuring from 10 to 50 hectares.

CHARACTERISTICS OF VARIOUS TYPES OF PASTURE

The character of a pasture should correspond to the type of animals and to the state of their health.

Depending on the quality of the soil, the topography, and the vegetation, pastures are divided into dry, (including steppe, mountainous, and forest types), and muddy.

Dry and mountainous pastures, providing they have good grass growth, are considered the best, since the vegetation on these pastures is of good botanic composition and highly nourishing. The animals do not suffer from dampness in the soil or the air. Dry and steppe pastures are better adapted for sheep, horses, and large horned cattle, while mountainous pastures are best for sheep and large horned cattle and less so for horses.

Among the drawbacks of steppe pastures in arid regions are the burning of vegetation in hot weather, uncertain supplies of water, great heat, and winds. In addition there is often considerable dust which is lifted into the air and carried onto the grass, with the result that it is swallowed and inhaled by the animals.

In addition, the grass of solonchak pastures is not very edible.

Sheep, particularly fine-wooled sheep, or especially lambs, may not be pastured in the steppe regions where feather-grass grows while that plant is blooming and ripening, since the seeds of this plant, the "tyrsy", have sharp points and long, spiraled, bent beards. When they fall into the wool, the beards not only clog the wool, but injure the skin. They bore their way into the skin and penetrate the tissues under the skin and even the internal organs, where they cause serious injuries and sometimes even the death of the animal.

On steppe pastures animals often suffer from gadflies.

In using these pastures for animals which are particularly sensitive to specific adverse factors, and particularly for young and breeding stock, it is necessary to take measures to protect them, and to select special, pasture areas which are more suitable for them.

In connection with mountain pastures the order in which the various sections are used is of great importance, depending on the nature of the topography, the elevation, and the direction (i.e., to the north or the south) in which these pastures slope. First one uses the pastures in the foothills, and on the southern slopes, and then one uses those on the northern slopes. In the summer animals should be pastured on high, mountain pastures, and in the autumn they are returned to the foothills. One should keep in mind that mountainous pastures are not desirable for weak, ill, and young animals, because of the great elevation, the rarified air, and the possibility of sudden atmospheric changes (i. e., changes in the

weather).

Forest pastures are distinguished by their great variety, depending on the nature of the forest soil, the thickness of the vegetation, etc. The best pastures are in hardwood forests with thin vegetation and with large forest glades, and also on cut-over areas of forests.

In recent years in a number of rayons of Moscow and other oblasts so-called forest-park pasture has become more and more widely used. These are pastures for animals in thinly wooded areas, of little value, where the undergrowth has been cleaned away, and where good, edible grass exists. The thick growth has poor, and at the same time, not vary nourishing vegetation, often accompanied by large quantities of poisonous grasses which are not very suitable for pasture. In addition this type of pasturing causes considerable loss of trees, particularly of small, young ones. Further, when pasturing in the forest thickets and undergrowth often cause mechanical injury of the animals, (to their udders, eyes, limbs, etc.).

Pasturing in forest pastures presents a danger also in that the cattle may become infected with piroplasmosis. In addition to this animals may become infected with constipation, diarrhea, often accompanied by loss of blood, or inflammation of the kidneys, after having eaten resinous twigs and leaves of trees, particularly after they have been hungry. For this reason cattle should be fed dry fodder before being allowed to pasture in the woods, or they should be put into tree-less pasture during the beginning of the day.

In forest pastures, particularly damp pastures, animals often

suffer from insects such as mosquitoes, etc.

Damp forest areas are not well suited to young animals. In dry regions, on the other hand, forest pastures are covered with softer grass than are open, steppe areas, and they are better for young animals. Forest pastures which have oaks growing on them are good for swine, which like to eat the acorns.

Low, damp pastures are to be avoided wherever possible, but horned cattle and swine may be permitted into damper pastures, and into those with a lower topography, than can sheep, horses, or terrestrial birds.

Sheep often suffer from all possible diseases when on damp pasture, particularly from helminthic and hoof diseases. Horses when on damp pasture are subject to irregular growth and to infections of the hooves. Damp pastures are not suitable for light horses, such as race-horses and jumping horses.

Muddy pastures are of poorer quality, since coarse grass which is not very nutritive grows on them. Bitter grasses and reed grasses are examples of this type. Among these grasses there often grow harmful and poisonous grasses with which the animals can easily be poisoned.

There is always the danger on muddy pastures that the animals may be attacked by infectious and helminthic diseases. Muddy pastures are always undesirable for young animals. The ground in muddy pastures is not rich in calcium or phosphorus, and for this reason the animals, particularly young cattle, may suffer from osteomyelitis when placed on such pasture.

Often there are stubble-fields and meadows in pasture-land. On a fresh stubble-field, soon after the grain has been harvested, there may be harmful grasses, or the germinated seeds of grasses; if an animal eats these it may result in infection with tympanites or colic. For this reason before driving animals into stubble-fields it is a good idea to feed them something in the stable or in another pasture so that they will not feed in the stubble-field.

When animals graze in flooded pastures one should keep in mind the possibility that they will eat considerable quantities of sand or silt together with the grass; this may sometimes cause serious illnesses in the animals.

Pasturing in clover and alfalfa may be dangerous to those animals which have not eaten for a while and are very hungry; if they eat a considerable quantity of juicy material which is rich in proteins and easily ferments, large and small horned cattle may become ill with tympanites, and horses with colic. Before allowing animals to pasture in clover they must be fed a little bit of dry fodder or grass on a dry pasture.

PREPARATIONS FOR PASTURING

For hygienic and prophylactic verterinary reasons it is important to prepare for keeping animals at pasture. For this the following are necessary: preparation of the pasture region and of the animals themselves; and protecting the herd with personnel to watch over them.

Preparation of the pasture region includes examining the supply of grass on the pastures, as well as the quality of the grass,

i.e., the botanic composition of the grass, including its nutritive value and the presence of poisonous grasses.

In making this examination consideration must also be given to the soil and the topography of each section of the pasture, its degree of dampness, and its supply of water and the quality of that water.

Attention should be given to the sanitary condition of the sector, to whether it is littered with manure and bones, etc., to the presence of puddles and mud, and to any roads, animal burying grounds, or various structures nearby, and to take the proper measures to remove everything which might injure the health of the animals. It is necessary to obtain information from a local district veterinary doctor concerning the suitability of the area for pasture and concerning the surrounding region, with respect to infectious diseases (i.e., infectious and invasive). If necessary the local inhabitants should be asked about the circumstances of any previous diseases of animals on those or other pasture sections. In addition, if a veterinary-bacteriological laboratory is located nearby, in all cases in which a suspicion arises concerning infection of the pasture sections, bacteriological investigation must be made of the soil and water supply.

Bacteriological investigations of the soil of pasture sections, however, are in practice difficult to make. Microbiological investigations of the water surface on puddles and mud in pastures are worthy of considerable attention.

Preparation of pasture areas includes ridding them of manure,

rubbish, corpses and bones, as well as of undergrowth, dead branches, the roots of scrub growth; the removal of hillocks and draining; and in some cases liming and other reclamation measures.

It is necessary to fence in and dig trenches around both active and old, abandoned animal burying grounds, as well as individual animal graves, in order to make it impossible for the animals to get to them. Fences should also be built around shallow, polluted water sources, such as small ponds and mud-holes, so that the animals may not drink from them.

Furthermore, for veterinary prophylactic reasons a regular distribution and a system for utilization of pasture areas must be established. The system for the utilization of pastures should be divided into sections, which should be well separated by existing divisions, such as gullies or small rivers, or by other types of land, such as plowed fields or forests. Each such section must be strictly limited to the assigned herd; this is extremely important in order to avoid spreading infectious diseases if they should appear in any of the herds.

Each herd must have its own animal run and its own watering place.

The area reserved for a specific herd must be equipped with pens, sheds, or foundations to protect the animals from heat, bad weather, and insects, as well as for milking, feeding, and [calving]. When large numbers of horses are kept, so-called shelters are built to protect them from inclement weather, particularly in winter pasturing, or "tebenevka". These shelters are places of protection from winds and snowstorms, with high walls, four to six meters high, made of adobe or woven material, etc.; they are in the form of a cross or a broken line (zigzag), in order that the animals may find

protection from the wind regardless of what direction it may blow in.

It is expedient to construct these shelters of live materials, by planting three or more rows of trees in a circle, in a zigzag, or in some other configuration. The shelters may include sheds, (for mares and colts), or may lack them. Shelters, foundations, and barns may also be used to feed animals which are given hay at night.

In the winter supplies of fodder are brought to the shelters and foundations for the herds of horses. During the day, when winter pasturing is impossible because of snowstorms, ice crusts on the ground, or thawing, the horses should be fed hay four times a day. They should be given small portions, of 10 to 12 kilograms, which are placed on the snow in dry weather, in doing this the place should be changed often. In wet weather and when the snow is melting, and in all types of weather in the case of pregnant mares, the feed is given in the crib. Watering places should be constructed near the shelters and foundations, that is, near those stable areas surrounded by walls. At winter pasture horses generally drink once per day, but it is necessary to check to see that the watering trough always has water.

Preparation of animals consists in a thorough veterinary examination and an investigation of the animals for tuberculosis, brucellosis, etc., before they are driven out to pasture, in order to clarify their state of health. At the same time certain other measures are taken, such as paring the animals' hooves, treating those animals found defective in the examination, and removing and destroying the larvae of gadflies, etc.

In some instances, when the pasture is found to be unsuitable because of one or another disease, such as malignant anthrax, emphysematous carbuncles, or swine erysipelas, the animals are given a preventive inoculation before being driven out to pasture.

The animals should be grouped according to size and sex before being driven out to pasture. Those about to give birth, those having noninfectious diseases, the emaciated, and the lame are separated into individual groups.

A separate section of pasture is allotted to each group or each herd of animals. In doing so, high milk-producing animals, pregnant animals, valuable breeding stock, and young animals should receive pastures of better quality (including artificial pasture) and located nearer to the planted area of the kolkhoz or sovkhoz.

It has been recommended recently that enclosed pasture for animals should correspond to the requirements of zoohygiene. This means that large congregations of animals should be broken up while they are pasturing and while the state of their health is being tested.

As a prophylactic measure in the fight against certain illnesses, such as dictyocaulosis, rotation of pastures is of great significance. This means that the animals are transferred after a specified length of time from one pasture section to another; they are not returned to the first section within that year, or else they are returned only after three months have elapsed. At the same time the place where the animals stand at pasture should be changed periodically.

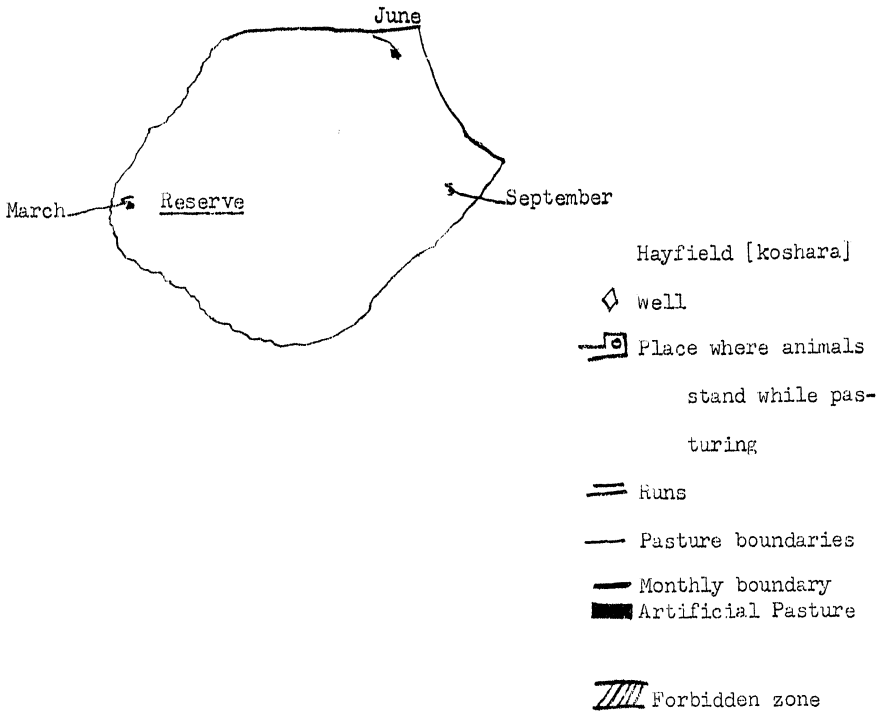


Figure 174. Plan for Pasture Use

Pasture Rotation (according to I. V. Orlov)

The selection and preparation of expert personnel --herdsmen and drovers --is extremely important. Of equal importance is the proper veterinary and sanitary supervision, and veterinary aid to animals while at pasture.

Herdsmen must be prepared to give first aid to the animals. For this they must be equipped with kits for field use.

Before the cattle are driven out to pasture the dogs which are to guard them must be subjected to a health examination. The purpose of this is to remove worms from these dogs in time so that they will not spread helminthic diseases among the animals.

Herdsmen, milkmaids, and other personnel who work with the

animals must go through a medical examination and, if necessary, also have their worms removed.

RULES FOR PASTURING

IN ORDER TO PROTECT THE ANIMALS AGAINST ILLNESS

The length of the pasture season differs, depending on the climatic condition of the particular region. In the northern regions the pasture season lasts for four or five months, while in the south it may last for from six to eight months or longer.

Driving the animals out to pasture early in the season, as well as letting them pasture late in the autumn, may have harmful effect on the animals, particularly on young animals, causing various catarrhal illnesses and disorders of the digestive organs.

A sudden change from stable to pasture, or vice-versa, may cause the animals to become ill with diarrhea, or to lose weight. In order to avoid these illnesses the animals should be allowed out for only a short time (two to three hours) on the first day of pasture, and should be allowed only on dry sections, with sparse vegetation. Each day thereafter the length of pasture time is increased gradually. The animals may be allowed on full pasture after six or seven days; during this time for the first days cattle should be given additional dry fodder.

Cattle which are very hungry, should not be released, particularly suddenly, into very juicy grass or into grass which is covered with dew or wet with rain. This is in order to avoid tympanites. In such cases one should wait until the grass dries out,

or one may first give the cattle dry fodder, or let them first pasture in higher, drier places, and then drive them to damper sections. It is not recommended that cattle be watered immediately after having eaten a considerable quantity of juicy grass. The cattle should be first allowed to rest and chew their cud, and then permitted to drink water.

It should not be a tiring experience for the animals to be driven to pasture. For this reason cattle should not be driven more than three to five kilometers from their stables to pasture. Valuable and highly productive animals and young animals must pasture within a radius of from 0.5 to 2 kilometers from their housing or stable.

During the time when animals are kept at pasture it is necessary to be strict in observing that the area assigned to one stable or group of animals is not invaded by animals from another stable and that in this manner infections are not transmitted.

Persons handling a group of infectiously ill animals may not remain where healthy animals are pasturing.