

## Sustainable cattle ranches at the American High Plains in United States

### Regional overview

The High Plains are a subregion of the Great Plains in the central United States, generally encompassing the western part of the Great Plains. The aridity of the region necessitates either dryland farming methods or irrigation; much water for irrigation is drawn from the underlying Ogallala Aquifer. Shortgrass prairie, prickly pear cacti and scrub vegetation cover the region, with occasional buttes or other rocky outcrops.

Many operations were diversified, with both ranching and farming activities taking place in High Plains. With the Homestead Act, more settlers came west to set up farms. There was some reduction of land on the High Plains open to grazing. Agriculture in the forms of cattle ranching and the growing of wheat, cotton and sunflowers is the primary economic activity in the region. The regions overlying the Ogallala aquifer are some of the most productive regions for ranching livestock, and growing corn, wheat and soybeans in the United States.

### Sustainable cattle ranches

The Fulton Quien Sabe ranch where a traditional cattle breeding is run sandwiches commonness river kana Deanne River. There are some springs bleeding from springs of the Ogallala aquifer of the Tertiary period in the ranch. However, the reservoirs such as red tanks are installed for a drought in the ranch, and there is the shallow boggy place where I saved water called playa in wards place of the flat topography. In this ranch, a big ward in 3,750ha of the north river ward, one small ward is 190ha of the Chinese holly cot ward from 35 Maki wards (pasture), but the average area is 486ha. An irrigation windmill and a reservoir (tank) are installed in each Maki ward, and the windmill becomes the drinking fountain of the domestic animal. I can survey the whole ranch from the George canyon (meters above the sea level 1,087m) in the comparatively high position that there is in the right bank of the ranch.

The 2,500th class cow and female young cow 500 of them for update are bred at this ranch, and the center of the ranch management is traditional cattle ranches. When the born cow suffers from weight of 220-270kg with around 2,400 every year, it is shipped in the cattle market. At the ranch called a lunch in this way, I use the natural topography and vegetation, a flow skillfully and install Maki ward, and breeding / upbringing of the bare cow which harmonized with nature is performed.

## Future issues

Most of the ranch of the company perform dependent domestic animal business in a natural grassy place. Because this arranged the domestic animal head count that put it out to pasture depending on production capacity of vegetation to depend on rainwater for, adapted itself naturally; become industrial. For example, I can breed it enough in traditional windmill pumping and reservoir because the water which one bullock of 250kg in weight drinks 26.7 liters. The unnecessary water which a cow did not drink helps the maintenance of the subsurface water to seep underground. In addition, the traditional ranch like this is the domestic animal business which is sustainable with resources circulation type so that the feces of the domestic animal become the manure of the natural trees and plants in the ranch.

Because High Plains is blessed with beef cattle and the geographical convenience of a fattening institution and the edible meat factory of the meat pig in an area with a little natural disaster, water consumption type industry such as a hogger of the company or the beef processing factory goes. The water consumption by those industry is thought about as air pollution, groundwater contamination and a factor to cause the problems such as the drying up of the Ogallala aquifer. On this account the maintenance of the Ogallala aquifer area becomes the important problem to continue traditional, sustained domestic animal business.

## Reference

Yagasaki N., Saito I. and Kanno M.(eds), 2003. American high plains : formation and sustainability of a global food producing region. Kokon-Shoin, Tokyo (in Japanese), 227pp.