What kind of floor should be placed in a barn that is designed for storing hay?

The most important thing to assure is that the barn is well drained so that the soil under the barn stays as dry as possible. It is virtually impossible to not have some spoilage in the hay on most flooring systems unless you have a raised floor with ventilation under it. Probably the best flooring material would be concrete with a vapor barrier underneath it. The problem with concrete is it is very expensive. Unless the hay is very valuable, it is difficult to justify economically. Coarse gravel helps to allow some ventilation under the hay, but eventually, the cracks will fill up with dirt and/or hay particles. Pallets or similar devices can be placed under the hay bales, but must be moved as hay is moved in and out or must be strong enough to stand up under the weight of a tractor. Most barns designed for storing large round bales simply use a dirt floor that is elevated and well drained to minimize moisture intrusion. Some barns that store valuable hay (typically small square bales for the horse market) do use a concrete floor.