I wish to make a model for my master’s degree, named “Estudio bioeconómico y modelización de sistemas de producción ganaderos que utilizan Pastoreo Racional Voisin”, translates to “Bioeconomic study and modelization of animal production systems using Voisin rotational grazing.”

For this study, I have collected productive and economic information of several farms which have either cattle or sheep in a Voisin rotational grazing system. The model will be about the grazing system, so at first I plan to only include the productive aspects (mainly focused on weight gain), and maybe later translating it into economic values.

Voisin rotational grazing works by dividing fields into many small plots, and having all the animals (or dividing them into few groups) in a single plot at a time, for a short period (usually a day).

For the model I will use the plots as my spatial units and either the cattle or sheep as my agents.

The plots will need a growth ecuation and a way to express the pasture allowance they have at any given time (for example, they could show the pasture height).   
The growth should be able to variate, for example if we consider different seasons. Aditional data of the plots could include wether they posses water and shadow for the animals in them.

As for the animals, they will need a weight, a set intake (which may variate with the pasture allowance) and a weight gain (which depends on the intake). Aditionally, if the water and shadow elements are added, there should be a way for them to affect the animals, such as including these factors in the weight gain.

The animals need to move as a whole unit or be separated into a few groups. They should be able to move from plot to plot in different ways, such as a sequence from top to bottom and right to left, or moving into the plot with highest pasture allowance.  
The amount of time during which the animals stay in a plot can change as well.

The objective of the model would be to describe how decisions such as how many animals are grazing and in what sequence they are moved affect production, as seen in weight gain. A second objective could be to see how external factors, such as seasons and weather affect this system, as seen in the growth of the pasture and later in the weight gain.