AnimalChange user interface information

A number of issues relating to the FarmAC interface were raised during the meeting in Dublin. I will deal with these issues here (and will later contact you about defining new crops, manure management systems etc).

The tab page that currently has the name Rotation is actually designed to capture the sequence of crops at a given location, rather than a crop rotation. We will rename the tab page Cropping sequence to make this clear. To describe a crop rotation, it would be necessary a number of crop sequences running in parallel. However, since we intend to simulate for a period of 100 years and then calculate the average yields and emissions, we consider that it is adequate to describe just one cropping sequence. Note that with this approach, the amount of crop products available for use as feed to livestock will also be averaged over 100 years. Note also that the feed ration you input for a particular category of livestock is also considered by the model to be an annual average.

For crops that have a duration of more than one year, we suggest the following. For established crops (e.g. permanent grassland), we assume that the crop management you input will be repeated each year. For crops that are growing for several years but that must first be established, it may be appropriate to define two separate crops; the first would describe the management and potential growth in the year of the establishment, the second would describe the management and potential growth in subsequent years.

As Cled Thomas pointed out, the quality and production of grass depends a great deal on how it is utilised (particularly grazing versus cutting). Our suggestion here is to define separate crop types and cropping sequences. For example, consider a situation which the grassland area is 100 ha. The management means that 60 ha of the grassland area is reserved for growing hay or silage in the spring, with the remainder being grazed. After the last hay or silage cut, the whole grassland area is grazed in the summer and autumn. The situation could be described by defining two cropping sequences, one with an area of 60 ha and the other with an area of 40 ha. The cropping sequence on the 60 ha would consist of two crops. The first you could call “grass for silage” (you would need to define a crop with this name via the local expert interface) and could have a crop product called “grass silage” (you would also have to define this using the local expert interface). You would indicate that the start and end of this crop corresponded to the end and start of the grazing period. The second crop you could call “late-season grazed grass” and could have a crop product called ”late-season grazed grass”. This would occupy the period from the end of the last cut to the end of the grazing period in the autumn. The second cropping sequence on the 40 ha would consist of one

crop which could be called “grazed grass, whole season”and have a product with the same name (“grazed grass, whole season”).

The interface currently allows irrigation to be indicated at the crop sequence level. We were asked if this choice could be made at the crop level. This will be implemented.

In situations where the grain and straw are harvested from a cereal crop and then livestock are grazed on the stubble, we suggest the following solution. Define a cereal crop as normal, then define a second crop which could be called “maize stubble” (or whatever crop name is appropriate), with a crop product called “maize stubble”. This crop product could then be included in the livestock diets.

In the longer term, the crops and crop products etc will be defined separately for each agro ecological zone, so that in the user interface, you will only see crops, livestock etc that have been defined for that zone. However, this will take Margit some time to implement. In the meantime, I suggest you preface the name of your your crops et cetera with the name of the agroecological zone, so that you can clearly identify them.

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