Introduction of Sugars in NIR profile of Cornsilages and Chopped Green corn

The sugar parameter that we have just been included in our NIR profile of silomais and chopped green corn acquires considerable importance in the qualitative and nutritional evaluation of the ensiled mass, especially when the climatic conditions make the final ensilage product very variable, as in this 2022.

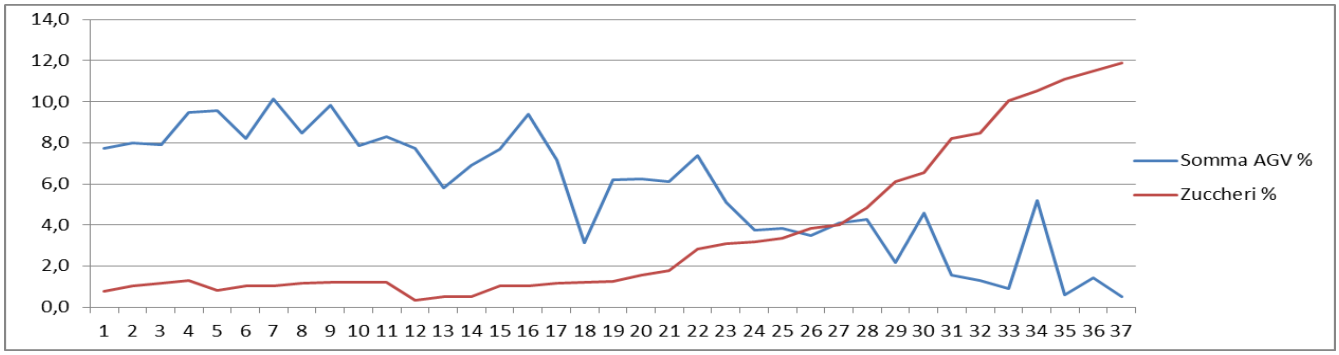
Corn silages:

the presence of sugars is usually caused by incomplete fermentation and it is generally accompanied by an insufficient fermentation framework: the value of sugars integrates these evaluation tools. Furthermore, the dosage would possibly allow to highlight the efficiency of particular ensiling procedures (inoculums, acidifications, compressed bales, etc.) according to the objectives that these treatments propose.

Sugar distribution in corn silages, 2022			Corresponding average value of associated **Volatile Fatty Acids** (Lactic + Acetic + Butyric)		Up to 1.5% of residual sugars, the production of organic acids is correct: while over 1.5% the acids produced decrease until they become insufficient for the stability of the silage.
Sugar range (%)	%/ tot	N. of Samples	VFA (%)	Standard deviation	
> 0,5	**11%**	235	**7,4**	1,3	
0,5 - 1	**27%**	564	**7,8**	1,3	
1 - 1,5	**39%**	799	**7,9**	1,2	
1,5 - 2	**5%**	102	**6,8**	1,3	
2 - 3	**7%**	136	**6,5**	1,6	
3 - 4	**4%**	77	**6,4**	1,6	
4 - 5	**2%**	46	**6,3**	2	
5 - 10	**4%**	92	**5,7**	2,4	
10 - 15	**0,5%**	10	**4,3**	3	

Fresh chopped corns:

the quantity of sugars is linked exclusively to the time that has elapsed since the cut, the storage temperature and the degree of compression of the sample taken. It can hardly represent a parameter for evaluating the original sugars at the time of shredding as the process of conversion into acids that starts immediately and can be very intense; the results we obtain present all the gradations of concentration from 1% to 14-16% but only these last values are closed to the average endowment of the corn plant at the waxy ripening stage. Below is the Sugar/AGV graph:



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