Previous purification of seminal plasma proteins from goats through Sephadex G-25 and G25-80

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Introduction

The study of seminal proteins is considered one important tool to be used in our days aiming to select genes connected to fertility or others characteristics. In some species these studies are advanced, but the same does not happens with goats. Aiming to improve the investigation on proteins bands with low molecular weight from Anglo-Nubian goats seminal plasma, it were used the ion change chromatography, Sephadex columns G-25 and G25-80 before to use the one dimension electrophoresis SDS-PAGE.

Materials and Methods

Semen collections were made weekly during the rainy (April – May) and dry (October – November) periods from five Anglo-Nubian goat thorough artificial vagina and it was used a pool from these collections. The Sephadex G-25 and G25-80 columns were eluted in 1: 25 phosphate buffer. During the run column it were collected six samples of 1 mL and after that realized the total proteins determination (Bradford, 1976) whose medium valor was 0.32 ug/ul for Sephadex G25, but it was not possible to calculate a medium value to G25-80 due to presence of no homogeneous peaks. The protein picks observed after Sephadex columns were submitted to one dimension electrophoresis 7.5% SDS-PAGE.

Results and Discussion

The protein peaks observed after Sephadex G-25 and G25-80 are on Figure 1. The gel analyze are showed on Table 1, where it is possible to observe bands from 70 kDa to 54 kDa. Studies with goat seminal plasma proteins without use of Sephadex column presented proteins bands variation from 13 kDa to 150 kDa (Teixeira, 2008), range that becomes difficult the protein study. Taken into consideration that this method is easy to perform and of low cost we recommend it to seminal plasma proteins bands isolation. Also, the gel G25 showed to be better to identify peaks concentration.

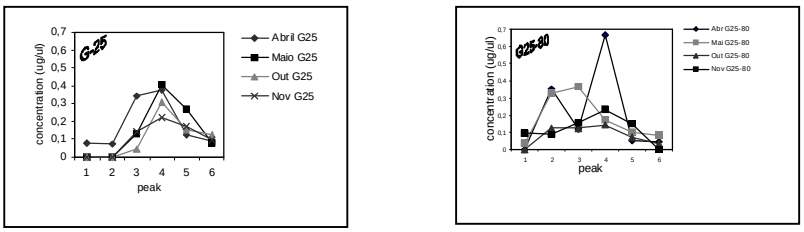

Figure 1. Peaks observed after Sephadex G25 and G25-80 columns in goats seminal plasma.

Table 1. Proteins bands (kDa) observed at 1D gel electrophoresis 7.5% SDS-PAGE, in goat seminal plasma samples after Sephadex run column.

Bands	Sephadex G-25				Sephadex G25-80			
	Apr	May	Oct	Nov	Apr	May	Oct	Nov
1	70	70	70	70	70	70	70	70
2	59		65		60		65	
3			59		54		59	

References

Bradford MMA. 1976. Anal Bioch, 72:248-254; Teixeira AMX. 2008. Proteins seminal study in Anglo-Nubian goats in Northeast of Brazil [in Portuguese]. Sobral, Brazil: Estadual University Acaraú' Vale. Thesis.

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