

Prova 2 Inventário Florestal

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Questão 1:

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Parcelas de 540 m ²		Estrato	Volume Comercial (m³)	Volume (m³)/ha	(yi - méd)²		
		A	8,8854	164,5444444	2960,81705		
		A	8,6322	159,8555556	3493,07941		
		A	7,9555	147,3240741	5131,39567		
		A	10,0856	186,7703704	1036,03286		
		A	8,5958	159,1814815	3573,21241		
		A	9,2231	170,7981481	2319,35541		
		A	6,7352	124,7259259	8879,65264		
		A	9,3933	173,95	2025,70519		
		B	18,4599	341,85	15102,4843		
		B	17,2635	319,6944444	10147,8645		
		B	14,4514	267,6185185	2367,86214		
		B	17,1316	317,2518519	9661,7138		
		B	16,8959	312,887037	8822,69504		
		Área amostrada:	0,702				
		n =	13				
		Média =	218,9578348 m³/ha				
		Var =	6293,489203 m ³ /ha ²				
		V% =	36,2314117				
		Var média =	484,1145541 m ³ /ha ²				
		Erro padrão da média =	22,00260335				
		T(0,975;13-1)	2,17881283				
		Intervalo de Confiança 95%	47,93955446 m³/ha				
		(IC95)%	21,89442297 %				
		LETRA A					
		Média =	218,9578348 m³/ha				
		Intervalo de Confiança 95%	47,93955446 m³/ha				
			Estadística T =	2,17881283	1,96202717	1,96219816	1,96219816
			N =	9444,444444			
			V% =	36,2314117			
			E% =	5			
			n =	13	1152,52224	1064,48782	1064,673373
							1064,673373
		LETRA B					
		Tamanho da amostra =	1064,673373 ha				

Questão 2:

Questão 2:	Área amostrada (ha)	Estrato	Área do estrato (ha)	N	n	a	Var	Méd	tau	Var(tau)	(a * S ²)	(a * s ²)/(n-1)
	0,432	A	321	5944,444444	8	4411108,025	349,6781618	160,89375	956423,958	1544546788	1542468146	3,39887E+17
	0,27	B	189	3500	5	2446500	737,0535436	292,8911111	1025118,89	1805781182	1803201494	8,12884E+17
		Floresta		9444,444444				209,8104191	1981542,85	3350327970	3345669640	1,15277E+18
							Var média	37,56077032				
							n_E	9,710087827				
							Estadística T	2,306004135				
							IC95%	172398123,4				
							IC95% percent	82168523,41				
		Nh		0,629411765								
		Nh		0,370588235								
		LETRA A					n* =	502426378,9				
		Média	209,8104191	m ³ /ha								
		IC95%	172398123,4									
		IC95% percent	82168523,41	%								
		LETRA B										
		n* =	502426378,9									

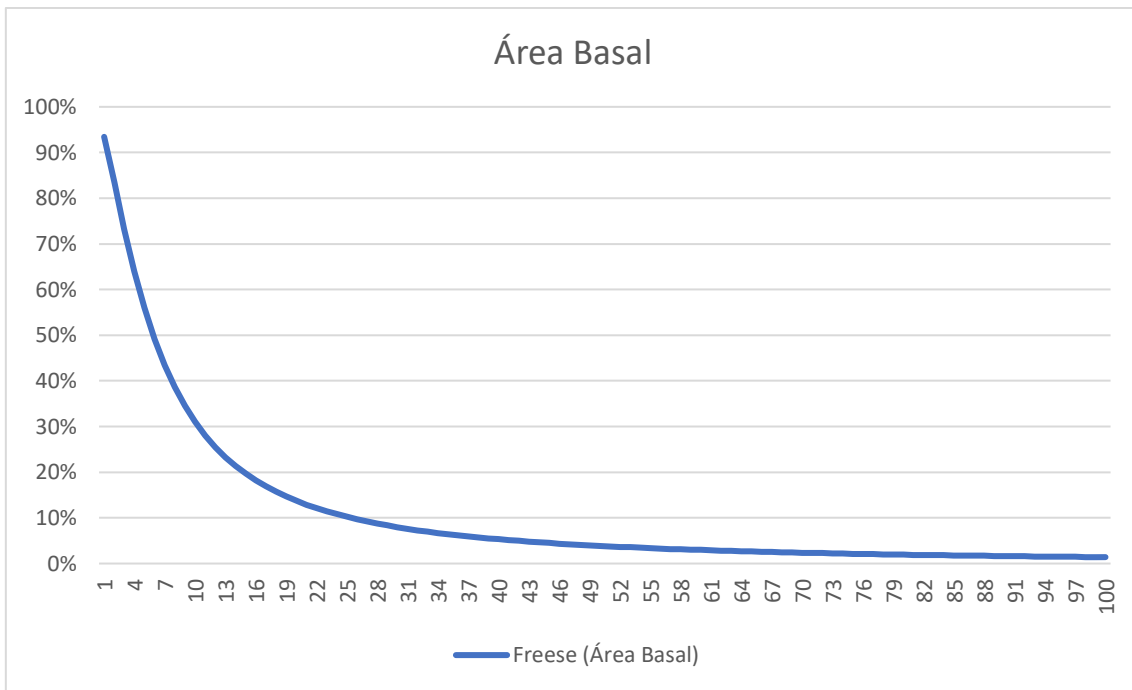
Questão 3:

Questão 3:		Var média (estratificada)	37,56077032
		Var média (aleatória simples)	484,1145541
		Razão:	7,758653402 %

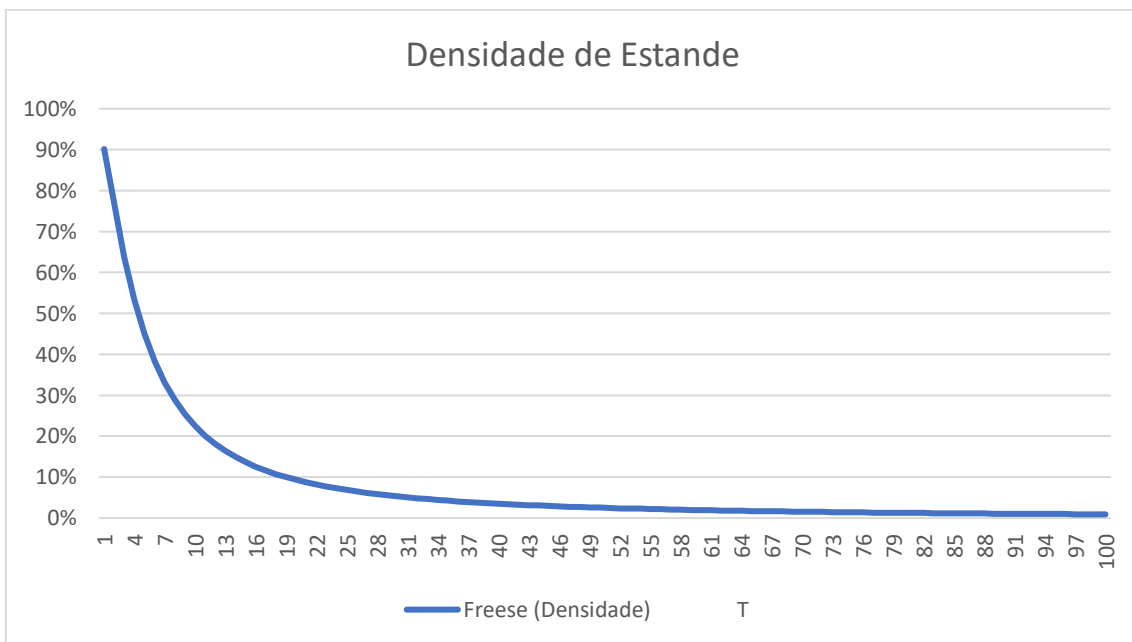
A razão mostra que a variância da amostra estratificada é cerca de 7,7% a da amostra aleatória simples, evidenciando que a estratificação foi muito eficiente por conta de haver uma melhor separação dos valores nos estratos A e B que se distinguem muito em volume de madeira (m³).

Questão 4:

Questão 4:	Coef. Variação	Área basal 45%	Densidade de estande 29%	Freese (Área Basal)	Freese (Densidade)	T
		45	29	142,3024947	91,70605214	10
				100,623059	64,84597135	20
				82,15838363	52,94651389	30
				71,15124735	45,85302607	40
				63,63961031	41,01219331	50
				58,09475019	37,43883901	60
				53,78528742	34,66162967	70
				50,31152949	32,42298567	80
				47,4341649	30,56868405	90
				45	29	100
				42,90581652	27,65041509	110
				41,07919181	26,47325695	120
				39,46761087	25,43468256	130
				38,03194146	24,50947339	140
				36,74234614	23,67840085	150
				35,57562368	22,92651304	160
				34,5134245	22,24198468	170
				33,54101966	21,61513278	180
				32,64643125	21,03881125	190
				31,81980515	20,50609665	200
				31,05295017	20,01190122	210
				30,33899381	19,55179601	220
				29,6721213	19,12203373	230
				29,0473751	18,71941951	240
				28,46049894	18,34121043	250
				27,90781528	17,98503652	260
				27,38612788	17,64883796	270
				26,89264371	17,33081484	280
				26,42490988	17,02938637	290
				25,98076211	16,74315781	300
				25,55828254	16,47089319	310
				25,15576475	16,21149284	320
				24,77168472	15,96397459	330
				24,4046765	15,72745819	340
				24,05351177	15,50115203	350
				23,71708245	15,28434202	360
				23,39438602	15,0763821	370
				23,08451292	14,87668611	380
				22,78663576	14,68472082	390
				22,5	14,5	400
				22,22391592	14,32207915	410
				21,95775164	14,15055106	420
				21,700927	13,98504184	430
				21,45290826	13,82520754	440
				21,21320344	13,6707311	450
				20,98135819	13,52131972	460
				20,75695218	13,37670252	470
				20,53959591	13,23662847	480
				20,32892782	13,10086459	490
				20,1246118	12,96919427	500
				19,92633492	12,84141584	510
				19,73380543	12,71734128	520
				19,54675092	12,59679504	530
				19,36491673	12,4799613	540
				19,18806447	12,36564155	550
				19,01597073	12,25473669	560
				18,84842587	12,14676334	570
				18,68523297	12,04159858	580
				18,52620682	11,93911106	590
				18,37117307	11,83920042	600
				18,21996743	11,74175679	610
				18,0724349	11,64668027	620
				17,92842914	11,55387656	630
				17,78781814	11,46325652	640
				17,65045216	11,37473584	650
				17,51622624	11,28823469	660
				17,38501671	11,20367743	670
				17,25671225	11,12099234	680
				17,13120722	11,04011132	690
				17,00840129	10,96096972	700
				16,88819906	10,88350606	710
				16,77050983	10,80766189	720
				16,65524723	10,73338155	730
				16,542329	10,66061202	740
				16,43167673	10,58930278	750
				16,32321563	10,51940563	760
				16,21687433	10,45087457	770
				16,11258467	10,38366567	780
				16,01028151	10,31773697	790
				15,90990258	10,25304833	800
				15,8113883	10,18956135	810
				15,71468165	10,12723929	820
				15,61972803	10,06604695	830
				15,52647509	10,00595061	840
				15,43487266	9,946917938	850
				15,34487264	9,888917922	860
				15,25642883	9,831920803	870
				15,16949691	9,775898006	880
				15,08403427	9,720822086	890
				15	9,666666667	900
				14,91735474	9,61340639	910
				14,83606065	9,561016864	920
				14,75608131	9,509474619	930
				14,67738164	9,458757059	940
				14,5999279	9,408842426	950
				14,52368755	9,359709753	960
				14,44862923	9,311338836	970
				14,37472271	9,263710192	980
				14,30193884	9,216805029	990
				14,23024947	9,170605214	1000



Considerando 10% de variação no levantamento, o tamanho ideal seria de 250ha para área basal, correspondendo ao número 25 do eixo X do gráfico acima.



Considerando 10% de variação no levantamento, o tamanho ideal seria de 200ha para densidade de estande, correspondendo ao número 20 do eixo X do gráfico acima.