

Controle das moendas: amostragens, análises e interpretação

Achiles Mollon

STAB – Maio 2018

- CANA
- CALDOS
- BAGAÇO
- AVALIAÇÃO DA EXTRAÇÃO (PONTUAL)
- EMBEBIÇÃO

A collection of laboratory glassware including three round-bottom flasks with stoppers, a graduated cylinder, a beaker, and a pipette. The glassware contains liquids of various colors: blue, yellow, and green. The word 'CANA' is overlaid in yellow text in the center of the image.

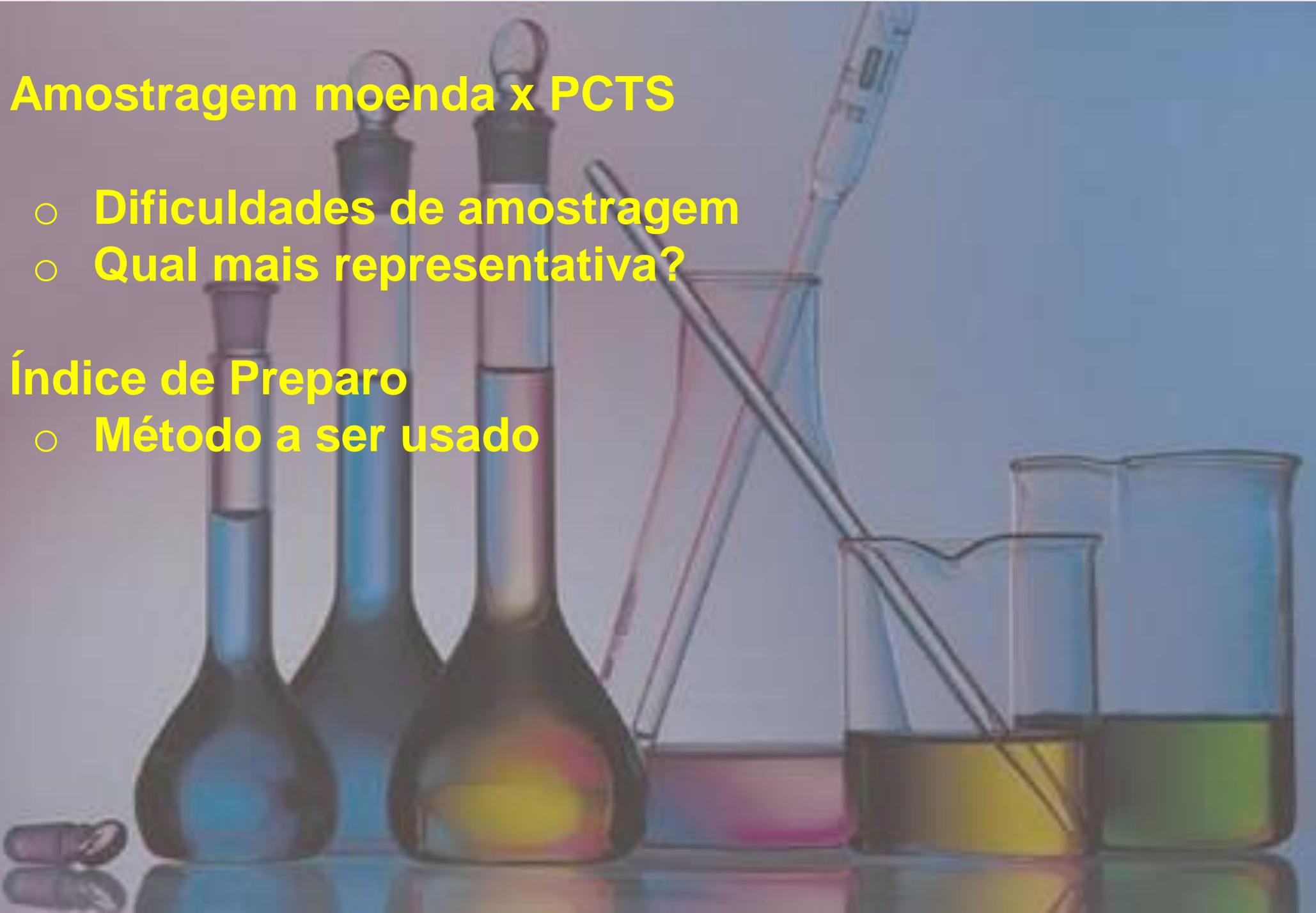
CANA

❖ PARAMETROS

- Fibra
- PC
- Índice de Preparo
- Impureza Mineral
- Impureza Vegetal



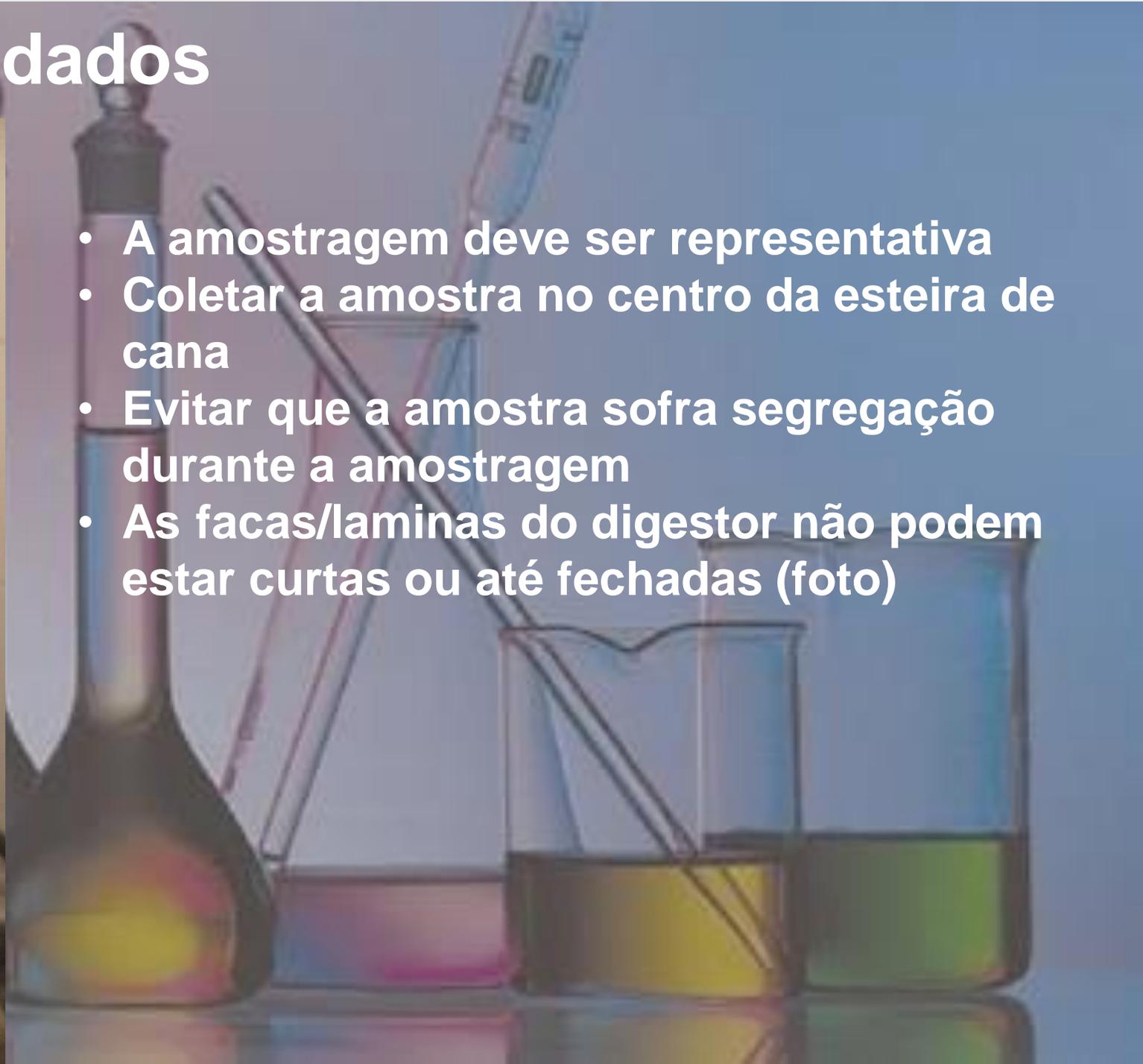
- **Amostragem moenda x PCTS**
 - **Dificuldades de amostragem**
 - **Qual mais representativa?**
- **Índice de Preparo**
 - **Método a ser usado**



Cuidados



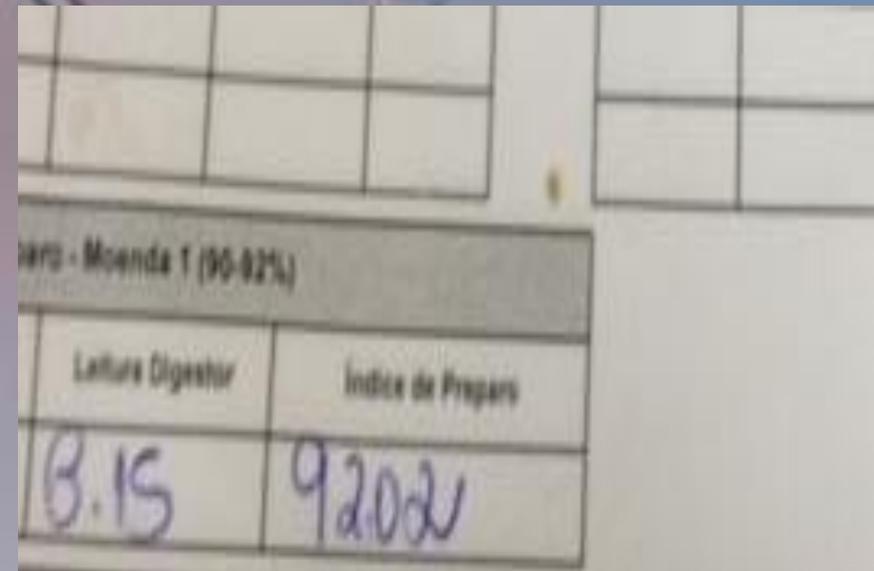
- A amostragem deve ser representativa
- Coletar a amostra no centro da esteira de cana
- Evitar que a amostra sofra segregação durante a amostragem
- As facas/laminas do digestor não podem estar curtas ou até fechadas (foto)





Comparação de Método

INDÍCE DE PREPARO	
Peso de Amostra (Kg)	10,8
Peso de Cana >10 cm (Kg)	0,258
Peso de Amostra (Kg)	10,542
Leitura Sacarimétrica Digestor	9,9
Leitura Sacarimétrica Agitador 1	9,08
Leitura Sacarimétrica Agitador 2	8,98
Média Agitador	9,03
Relação	0,9121
Fibra da Cana	11,23
PCD	97,61
Índice de Preparo (%)	87,33



A photograph of a handwritten laboratory record card. The card is divided into sections. The top section is labeled 'Moenda 1 (90-92%)'. Below this, there are two columns: 'Leitura Digestor' and 'Índice de Preparo'. The values '8.15' and '92.02' are handwritten in blue ink in the corresponding rows.

Moenda 1 (90-92%)	
Leitura Digestor	Índice de Preparo
8.15	92.02

Impureza Mineral

- Quantidade de análise
- Usar o branco? Como usar?
- Usar o volátil? Como usar?



Impureza Vegetal

- Quantidade de análise
- Como quantificar o palmito?
- Palha solta
- Ponto de quebra



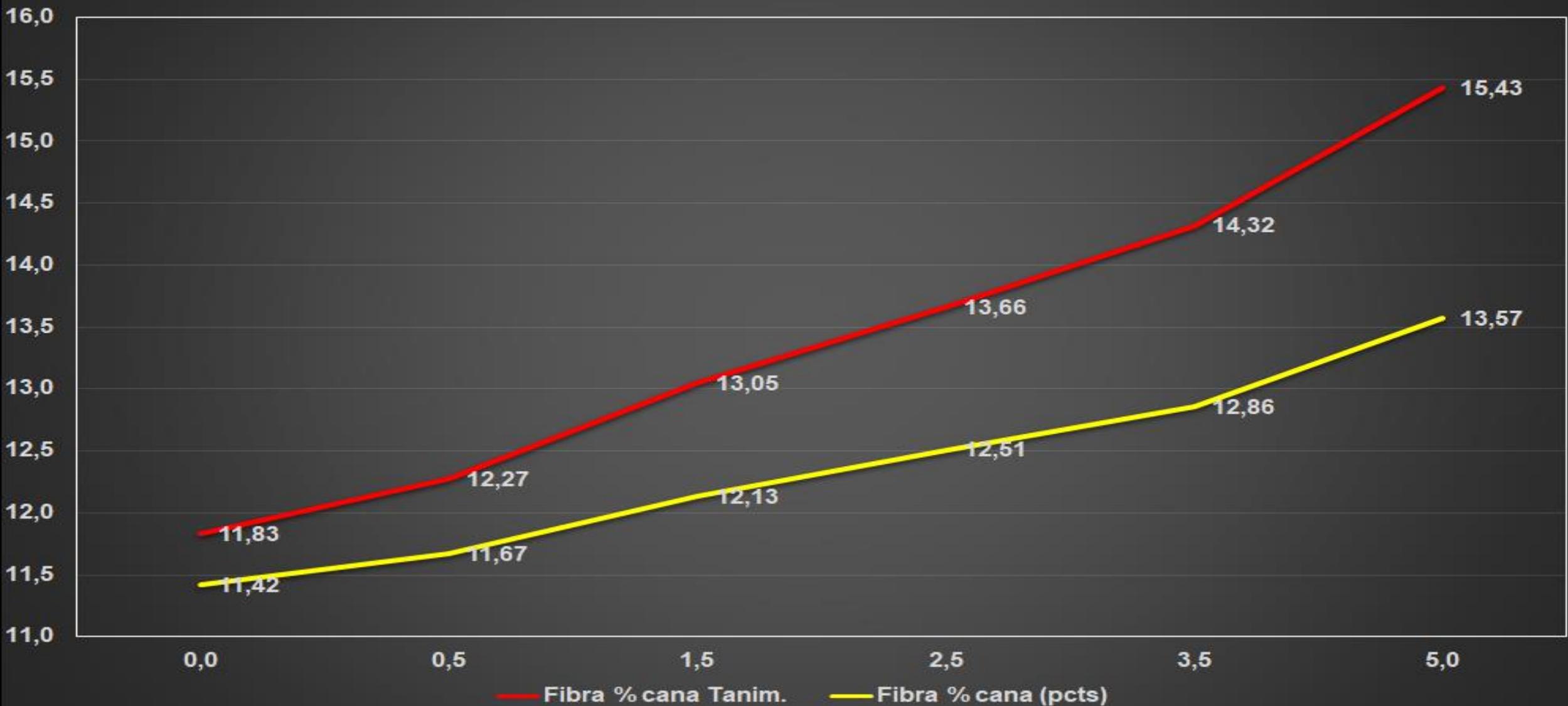


Impacto das Impurezas na fibra

Impurezas %	Fibra % cana Tanim.	Fibra % cana (pcts)
	Folhas verdes	
0	11,68	11,3
3	12,25	11,84
8	12,96	12,58
13	13,65	13,33
18	14,44	14,07
	Folhas secas	
0	11,65	11,29
3	13,74	12,57
5	15,19	13,37
10	18,57	15,65
15	21,73	17,84
	Terra	
0	11,83	11,42
0,5	12,27	11,67
1,5	13,05	12,13
2,5	13,66	12,51
3,5	14,32	12,86
5	15,43	13,57

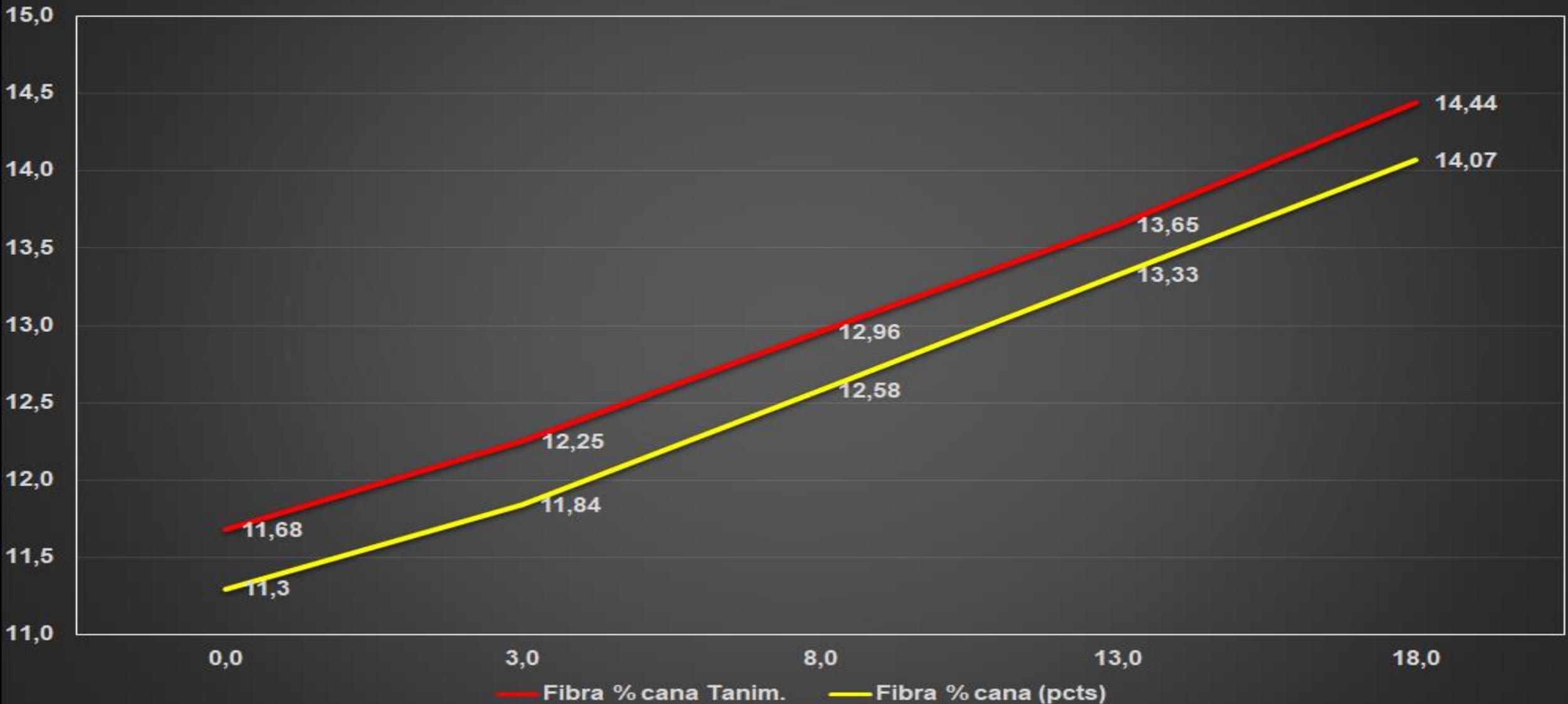
Impacto na Fibra

MINERAL



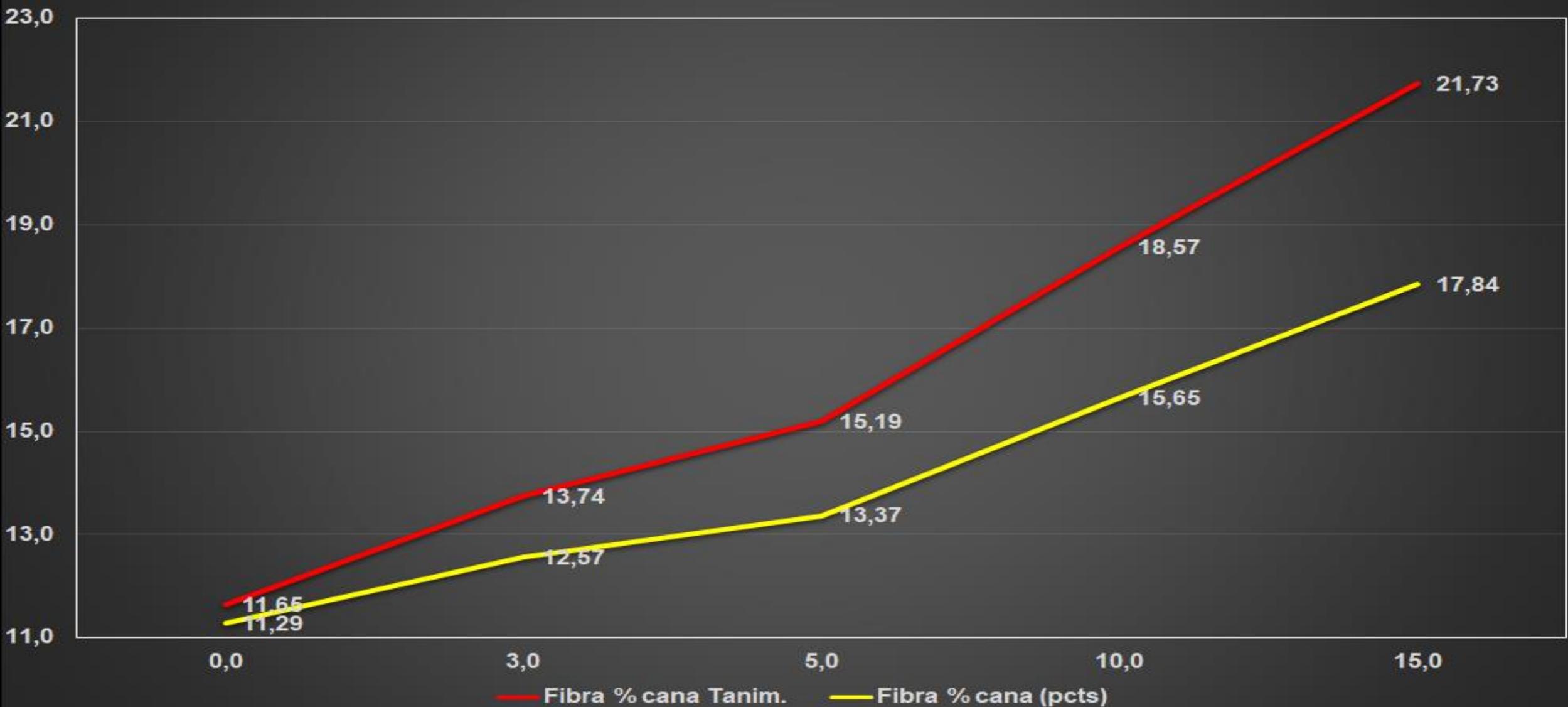
Impacto na Fibra

FOLHAS VERDES



Impacto na Fibra

FOLHAS SECAS



Impacto da Fibra na Extração

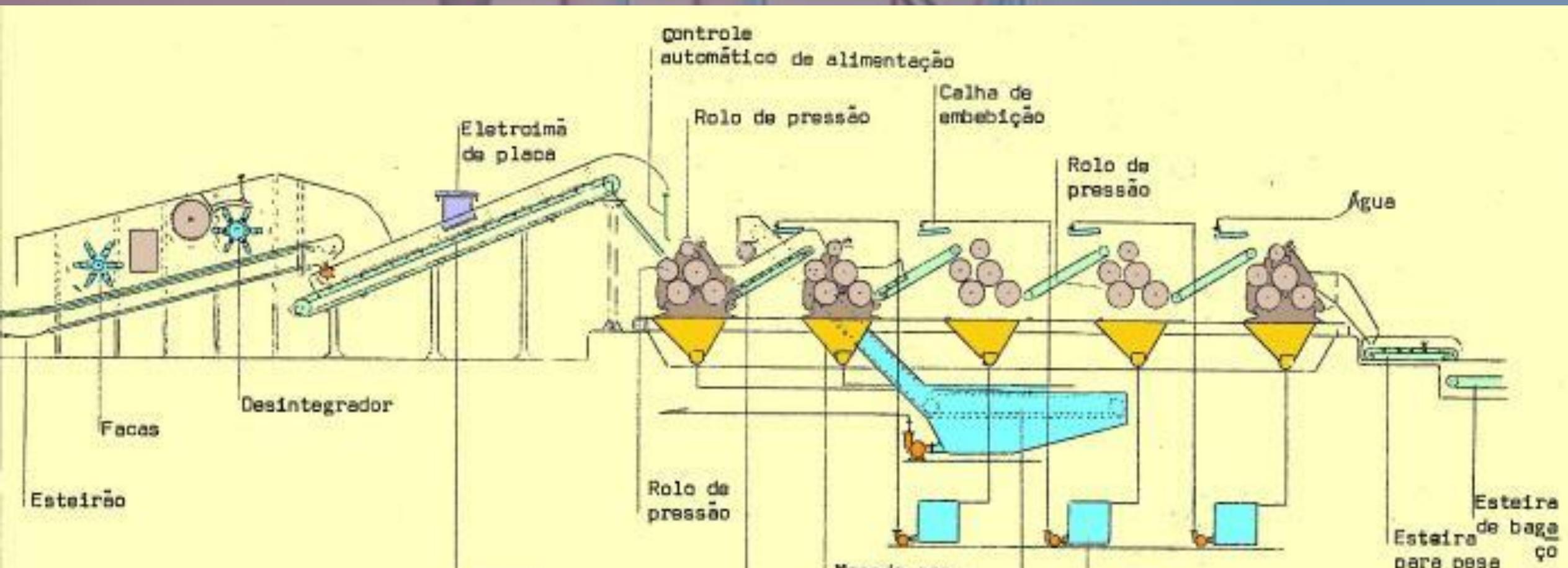
Leitura Sacarimétrica (LAI)	60,00						
Fibra (%)	12,00	12,50	13,00	13,50	14,00	14,50	15,00
PC (%)	13,33	13,21	13,10	12,98	12,87	12,76	12,64
BAGAÇO							
Umidade	50,76						
Pol no Bagaço	1,97						
EXTRAÇÃO							
Bagaço % Cana	25,85	26,93	28,00	29,08	30,16	31,23	32,31
Extração de Pol % Pol	96,18	95,98	95,78	95,58	95,38	95,17	94,96
Diferença Base 12% de Fibra	0,00	-0,19	-0,39	-0,59	-0,80	-1,00	-1,22

CALDOS



- Primeira pressão
- Última pressão
- Misto

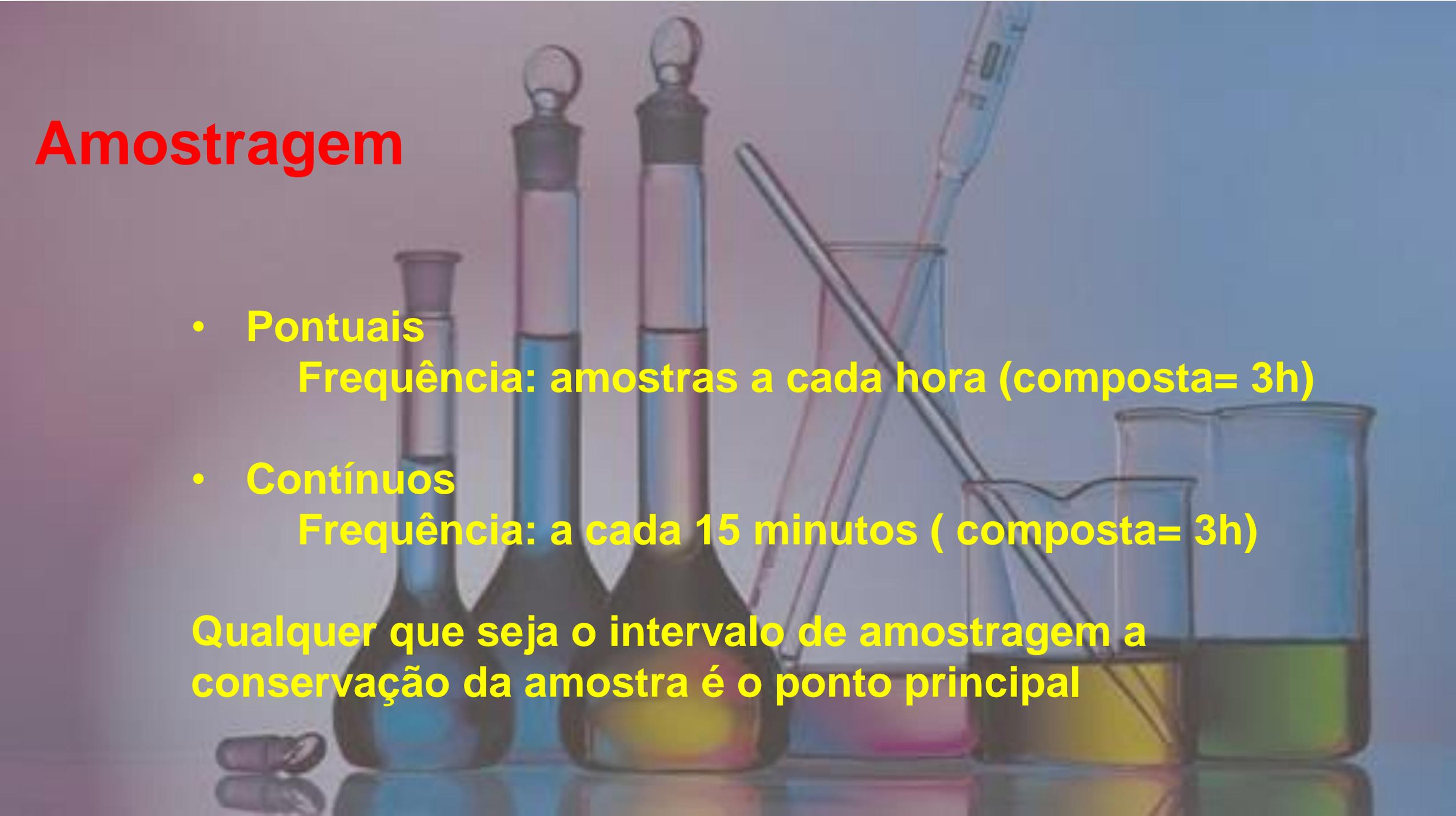
Amostragem pontual a cada 4hs e análise a cada 8hs



A collection of laboratory glassware including flasks, beakers, and a pipette, with the word 'BAGAÇO' overlaid in yellow text. The glassware contains various colored liquids: blue, yellow, and green. A pipette is shown dispensing a red liquid into a flask. The background is a gradient of blue and purple.

BAGAÇO

Amostragem

The background of the slide features a collection of laboratory glassware. In the center, there are two tall, narrow glass bottles with stoppers, one containing a blue liquid and the other a pink liquid. To their right, a glass funnel is placed over a beaker. A pipette is shown in the upper right, dispensing a red liquid into a flask. In the foreground, there are several beakers containing liquids of various colors: yellow, green, and blue. Two small, dark capsules are visible in the bottom left corner. The entire scene is set against a light blue background with a subtle gradient.

- **Pontuais**
Frequência: amostras a cada hora (composta= 3h)
- **Contínuos**
Frequência: a cada 15 minutos (composta= 3h)

Qualquer que seja o intervalo de amostragem a conservação da amostra é o ponto principal

Amostrador



Amostrador

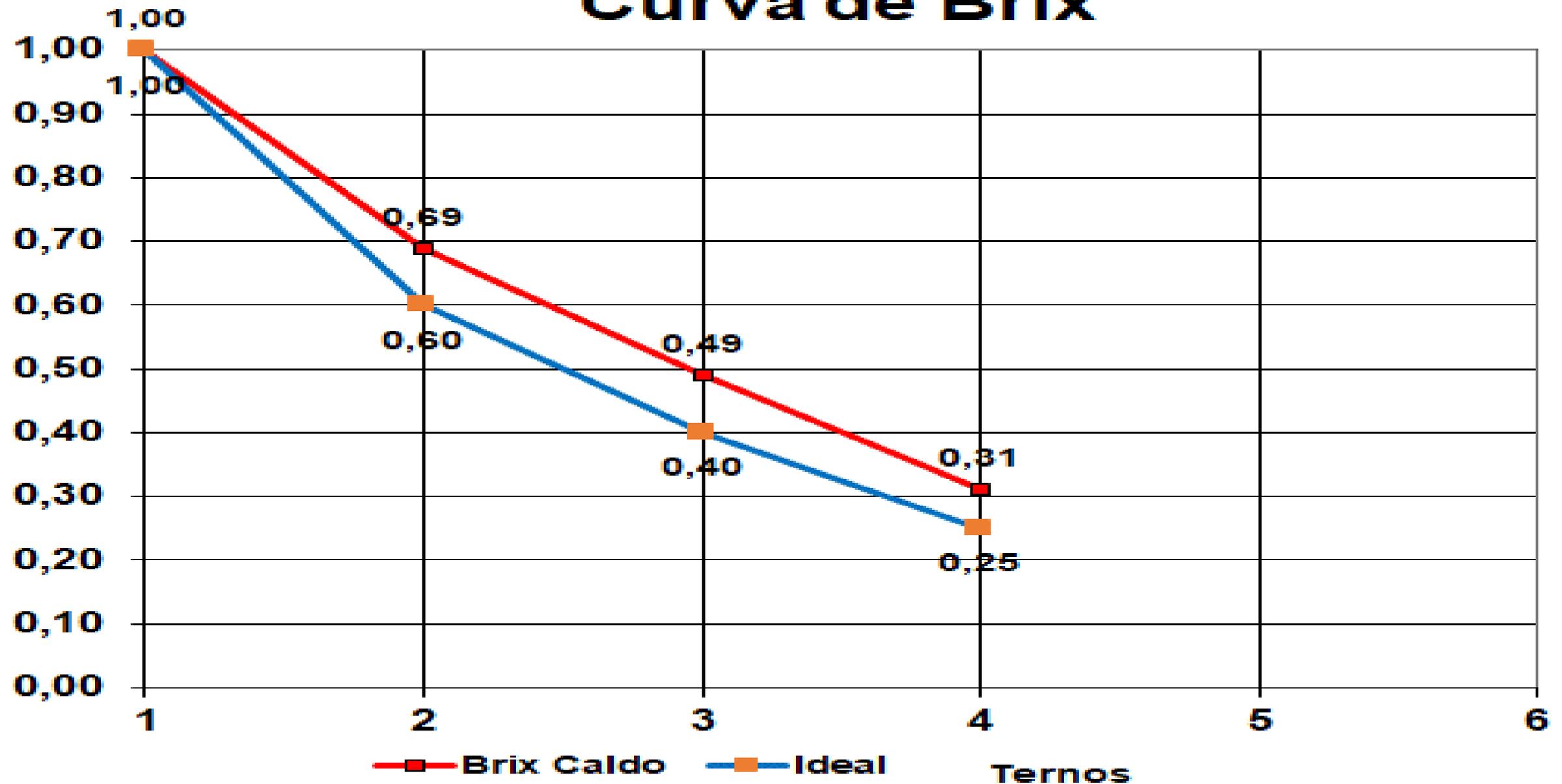


EXTRAÇÃO TERNO A TERNO E CURVA DE BRUX



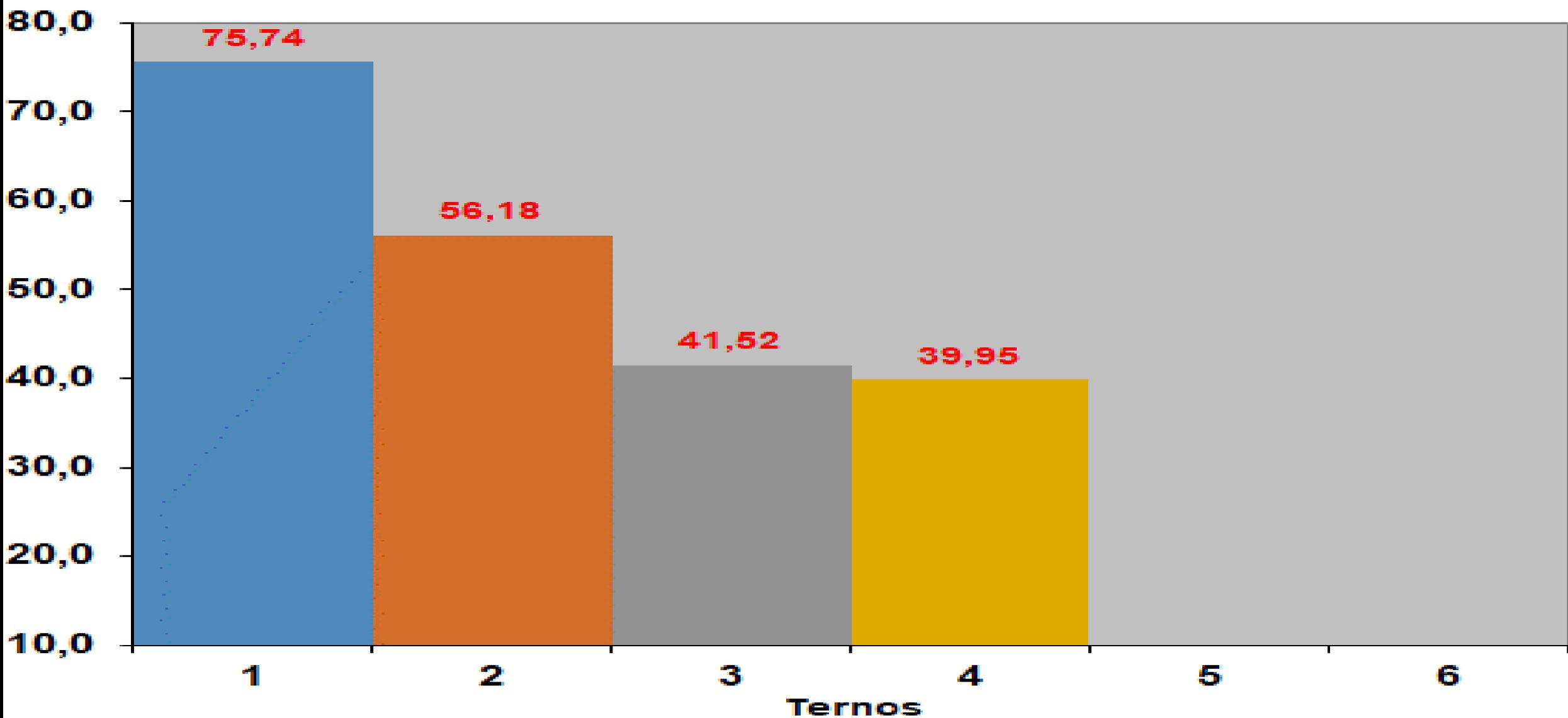
EXTRAÇÃO TERNO A TERNO

Curva de Brix



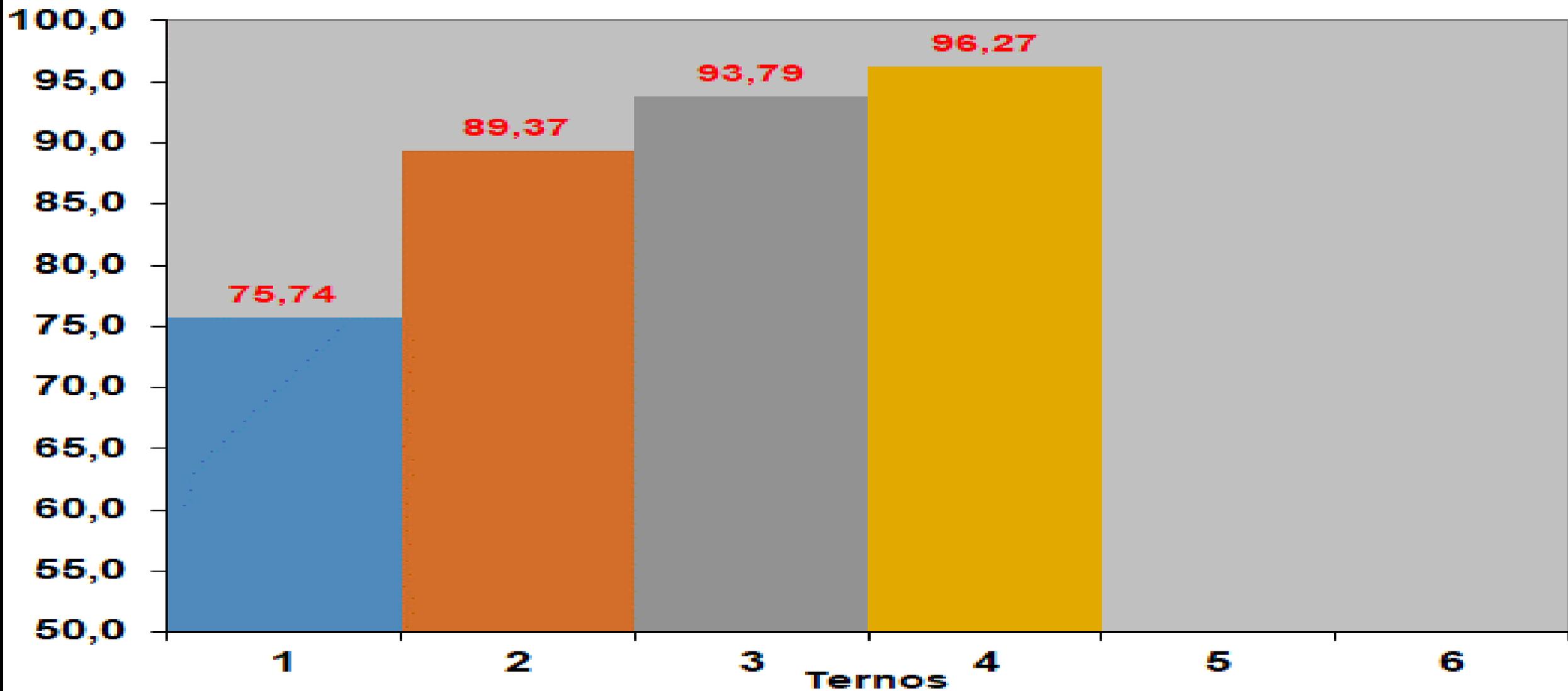
EXTRAÇÃO TERNO A TERNO

Extração Relativa de Pol



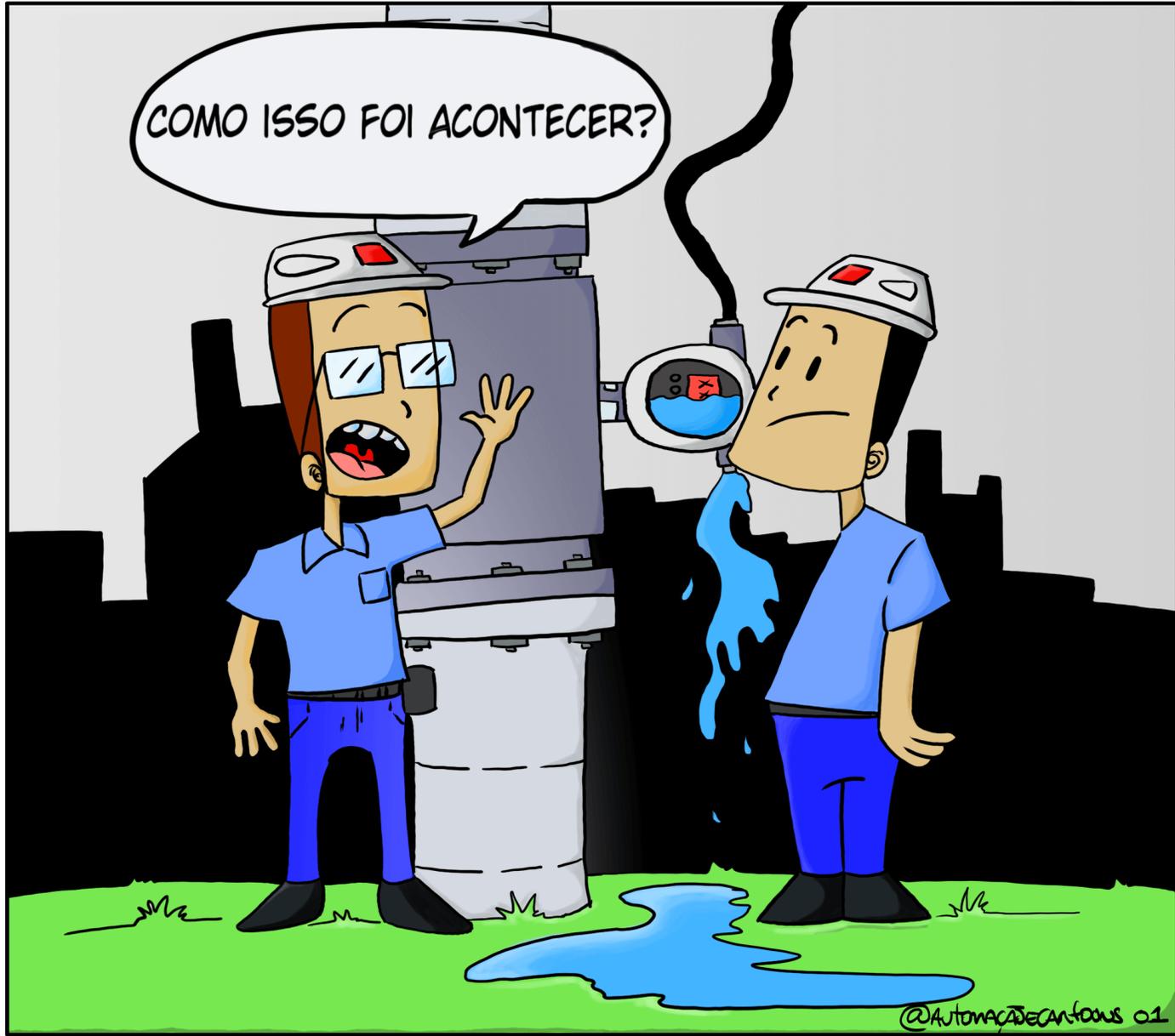
EXTRAÇÃO TERNO A TERNO

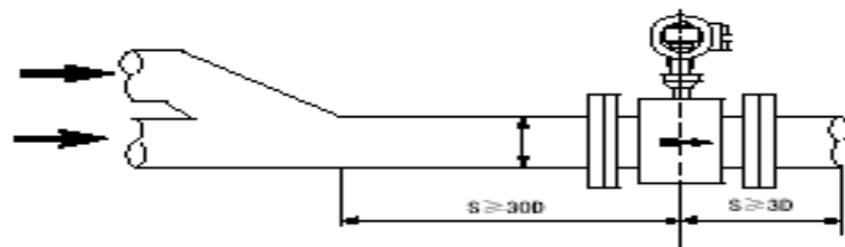
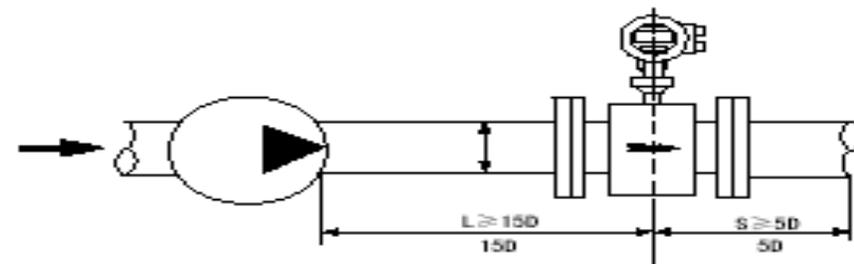
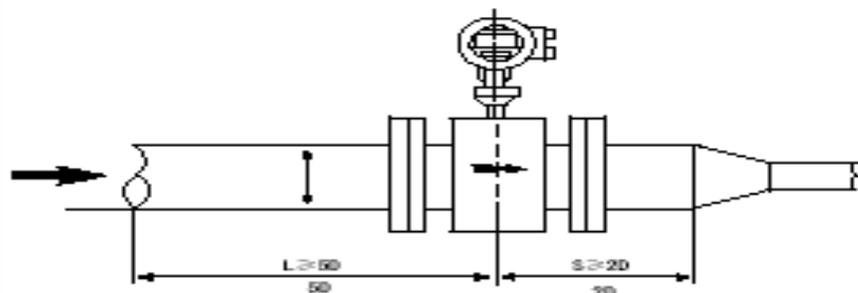
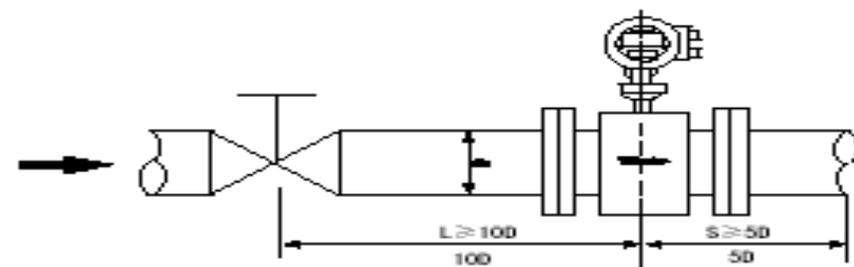
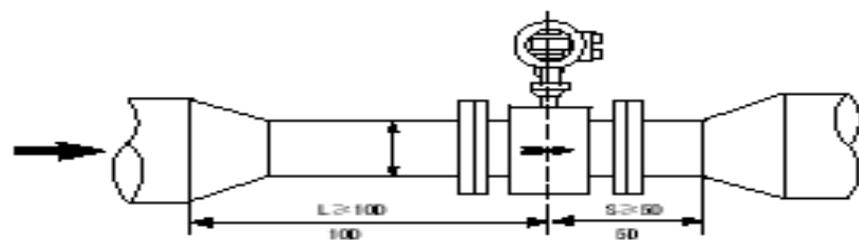
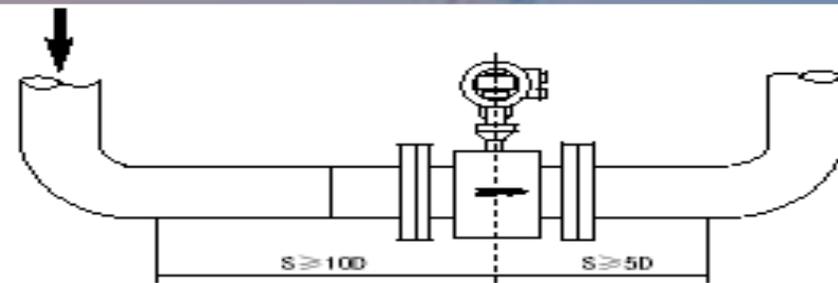
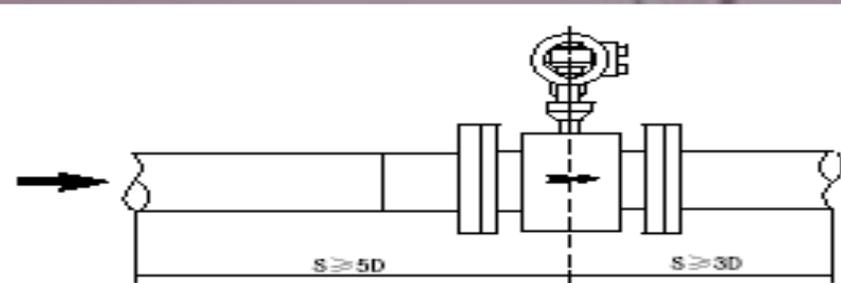
Extração Acumulada de Pol



MEDIÇÃO DE VAZÃO

A collection of laboratory glassware including three Erlenmeyer flasks with stoppers, a graduated cylinder, a beaker, and a pipette. The glassware contains liquids of various colors: blue, yellow, and green. The background is a soft gradient of blue and purple.





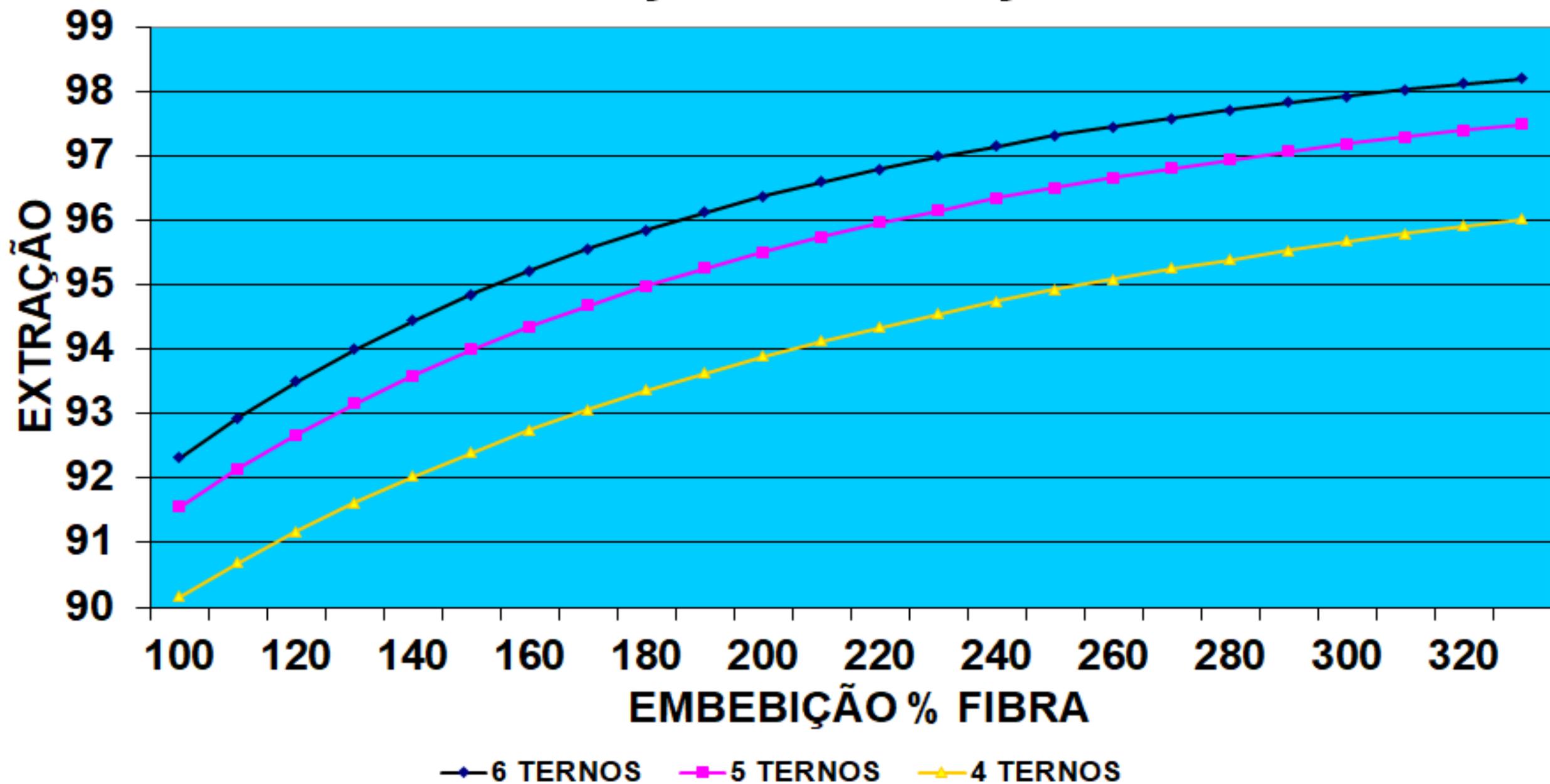
PRESSÃO DA ÁGUA DE EMBEBIÇÃO



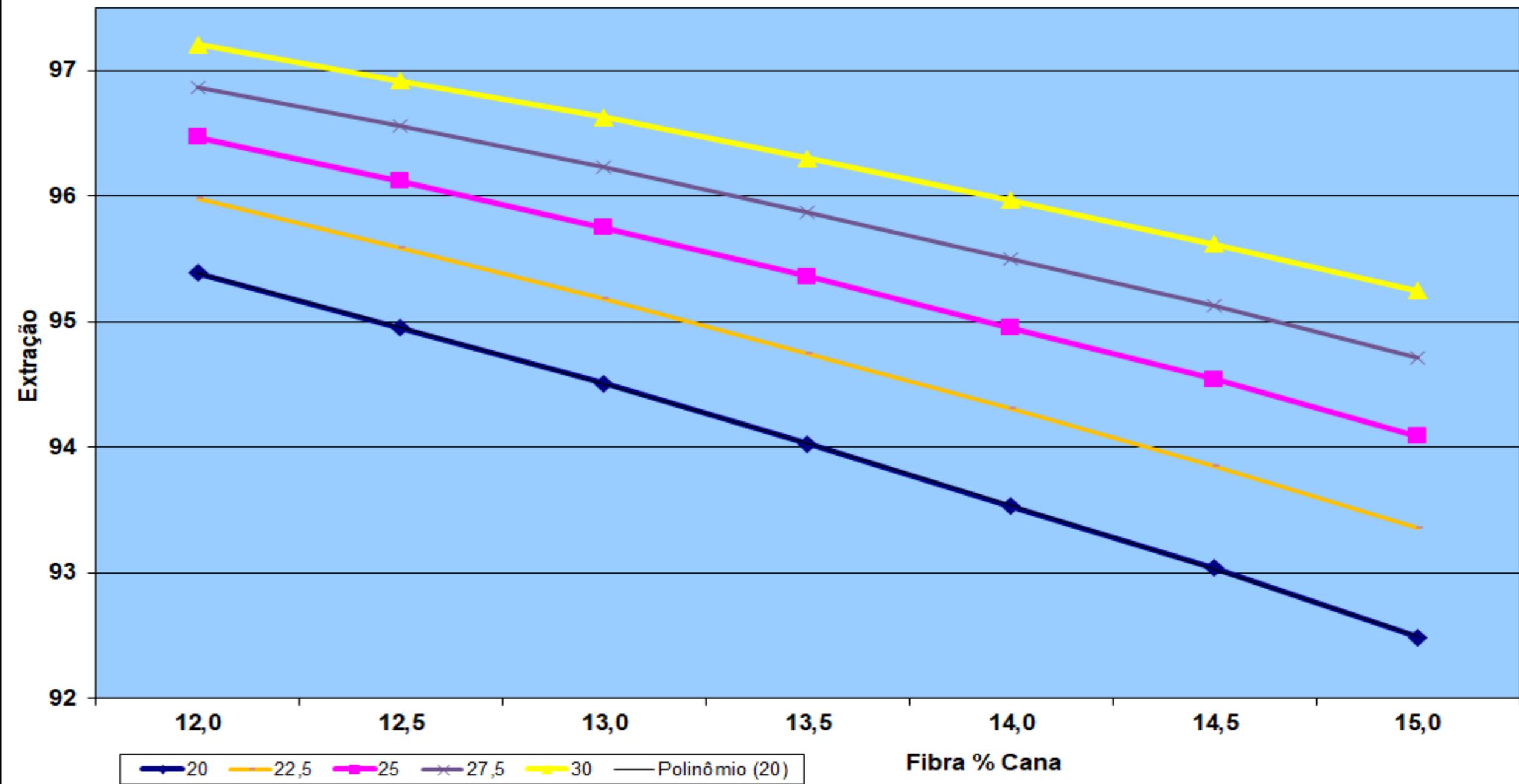
Medidor x Inferencial

EXTRAÇÃO	
Moagem Hora	408
Fibra da Cana	11,79
Pol % Cana	11,40
Brix do Bagaço	2,83
Fibra do Bagaço	42,41
Bagaço % Cana	27,80
<i>Extração de Pol % Pol</i>	95,17
Brix Caldo Misto	13,19
Pureza Caldo misto	82,87
Caldo Misto % Cana	99,214
Embebição Método Inferencial (% Cana)	27,01
Volume de água inferencial (m3)	110,21
Embebição % Fibra Inferencial	229,12
Volume de água medidor (m3)	70,00
Embebição Medidor (% Cana)	17,16

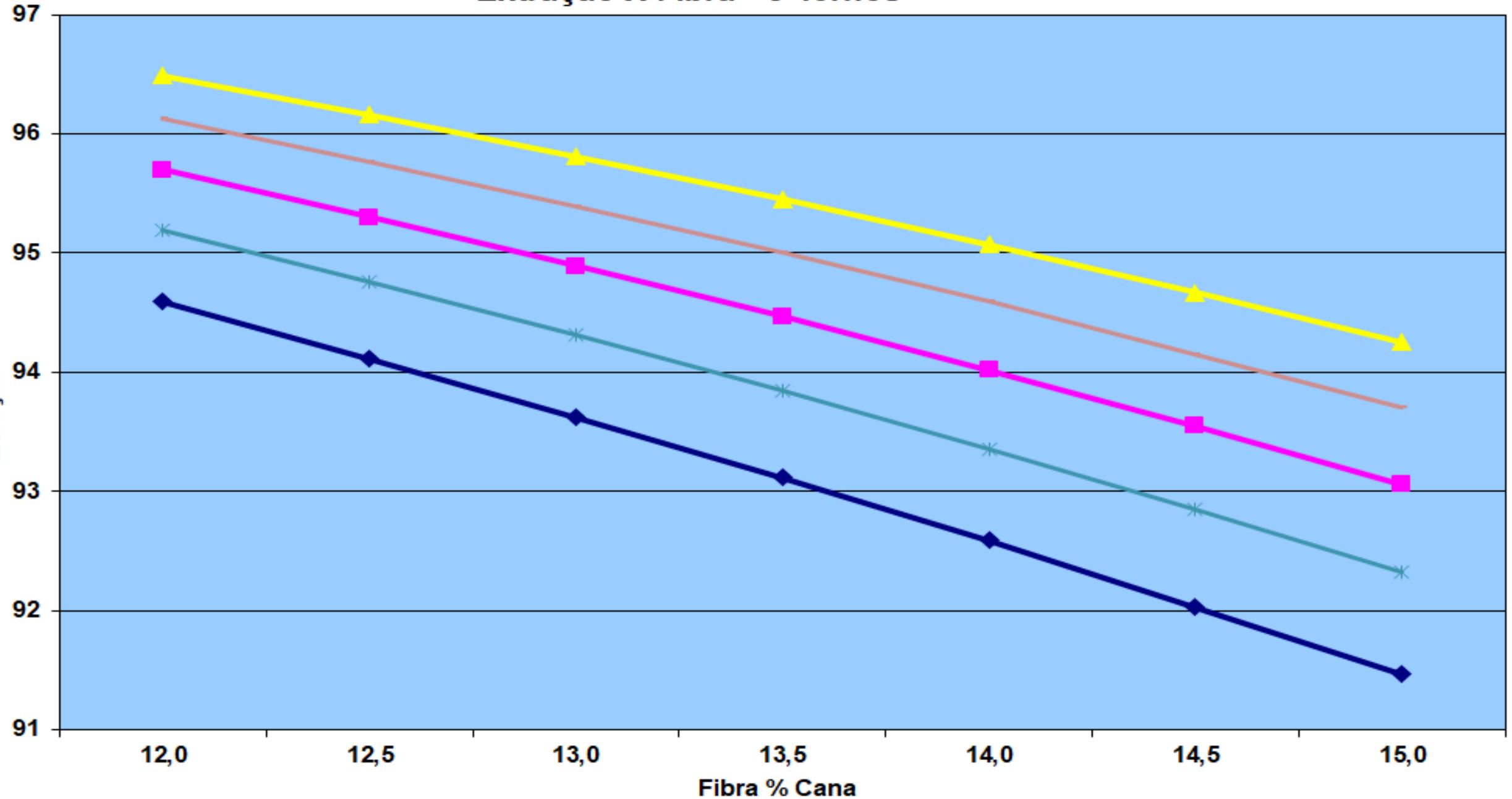
EMBEBIÇÃO x EXTRAÇÃO



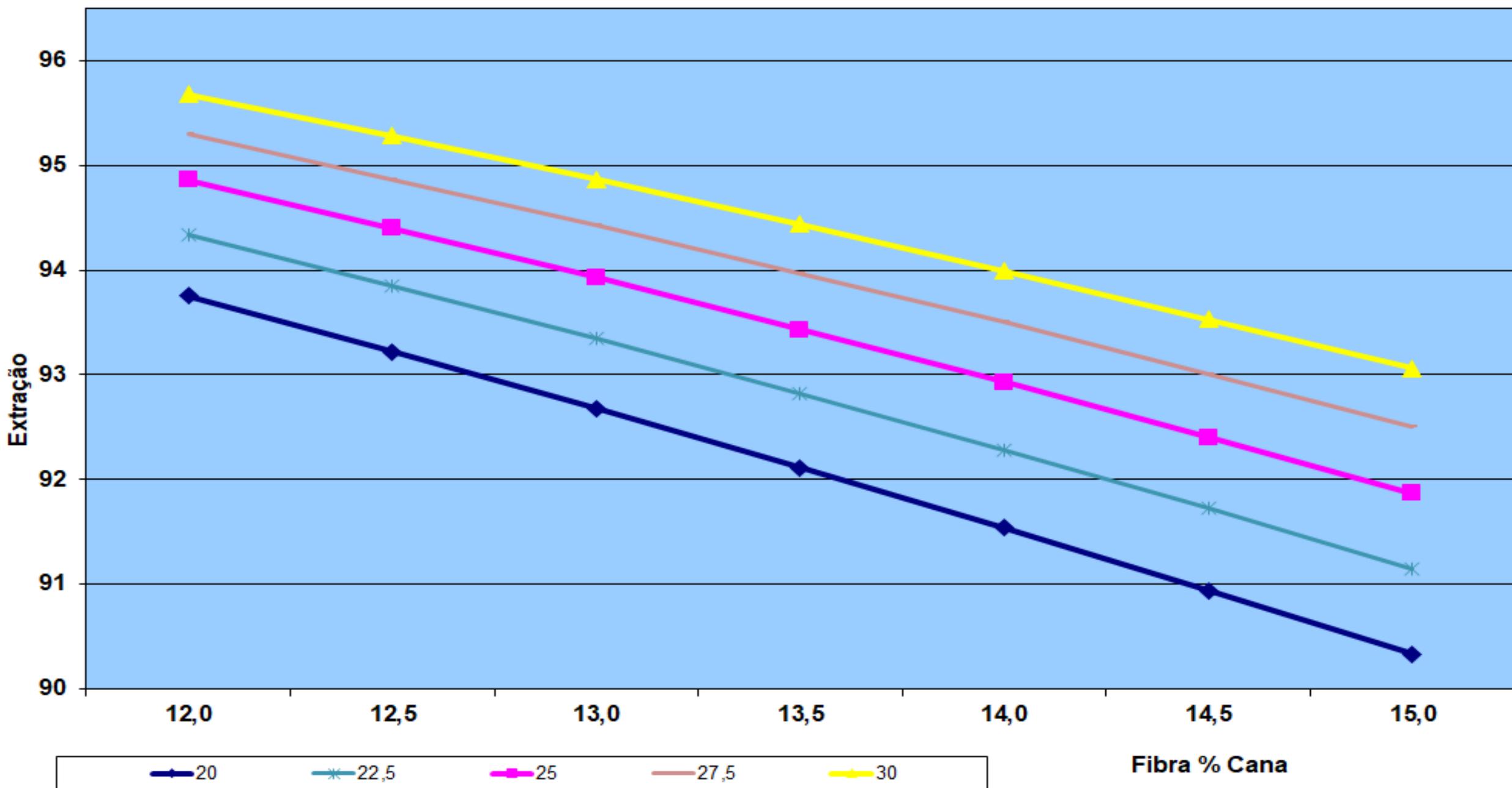
Extração X Fibra - 6 Ternos



Extração X Fibra - 5 Ternos



Extração X Fibra - 4 Ternos



EMBEBIÇÃO



EMBEBIÇÃO



00:03

00:17

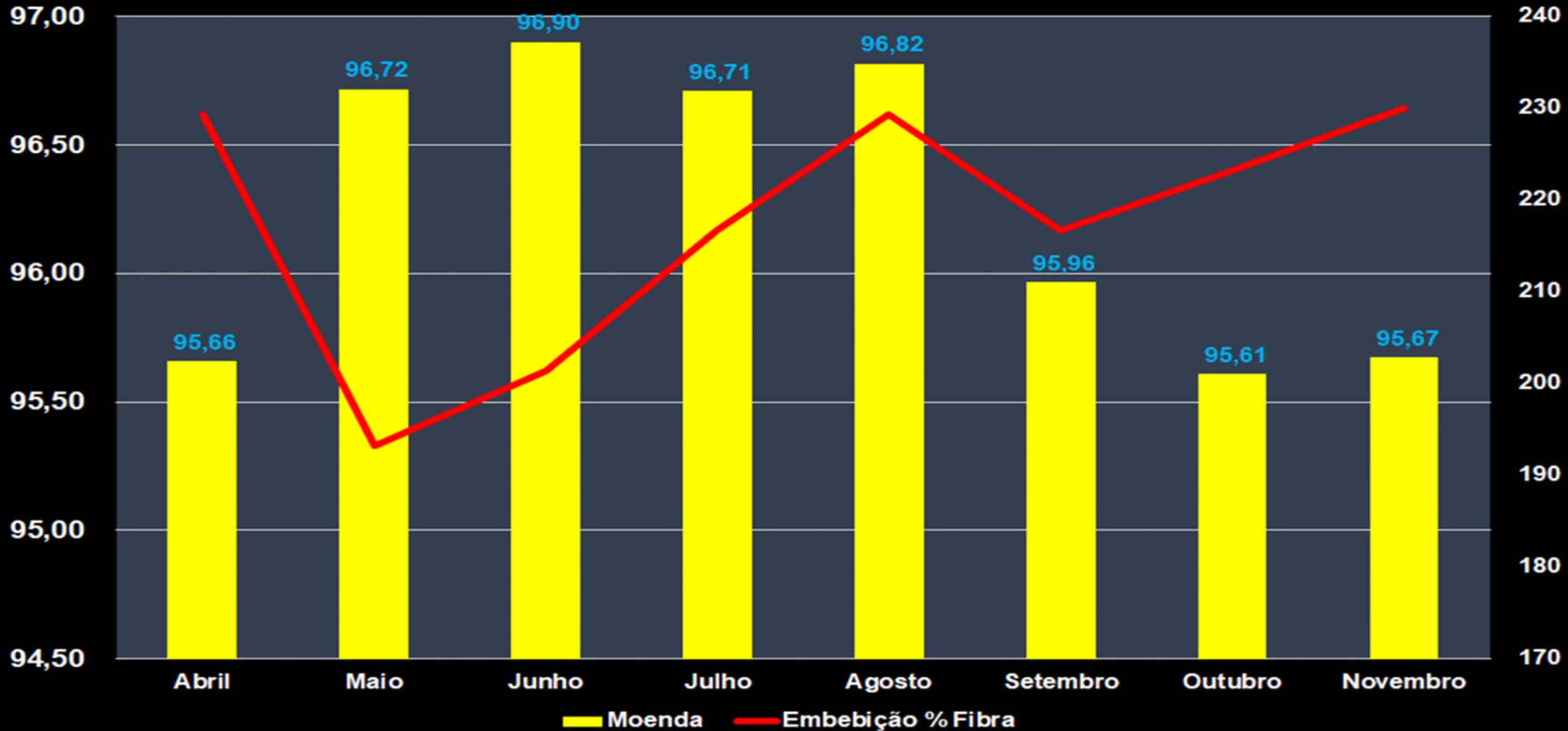


INTERPRETAÇÃO DE DADOS E OPERACIONAL

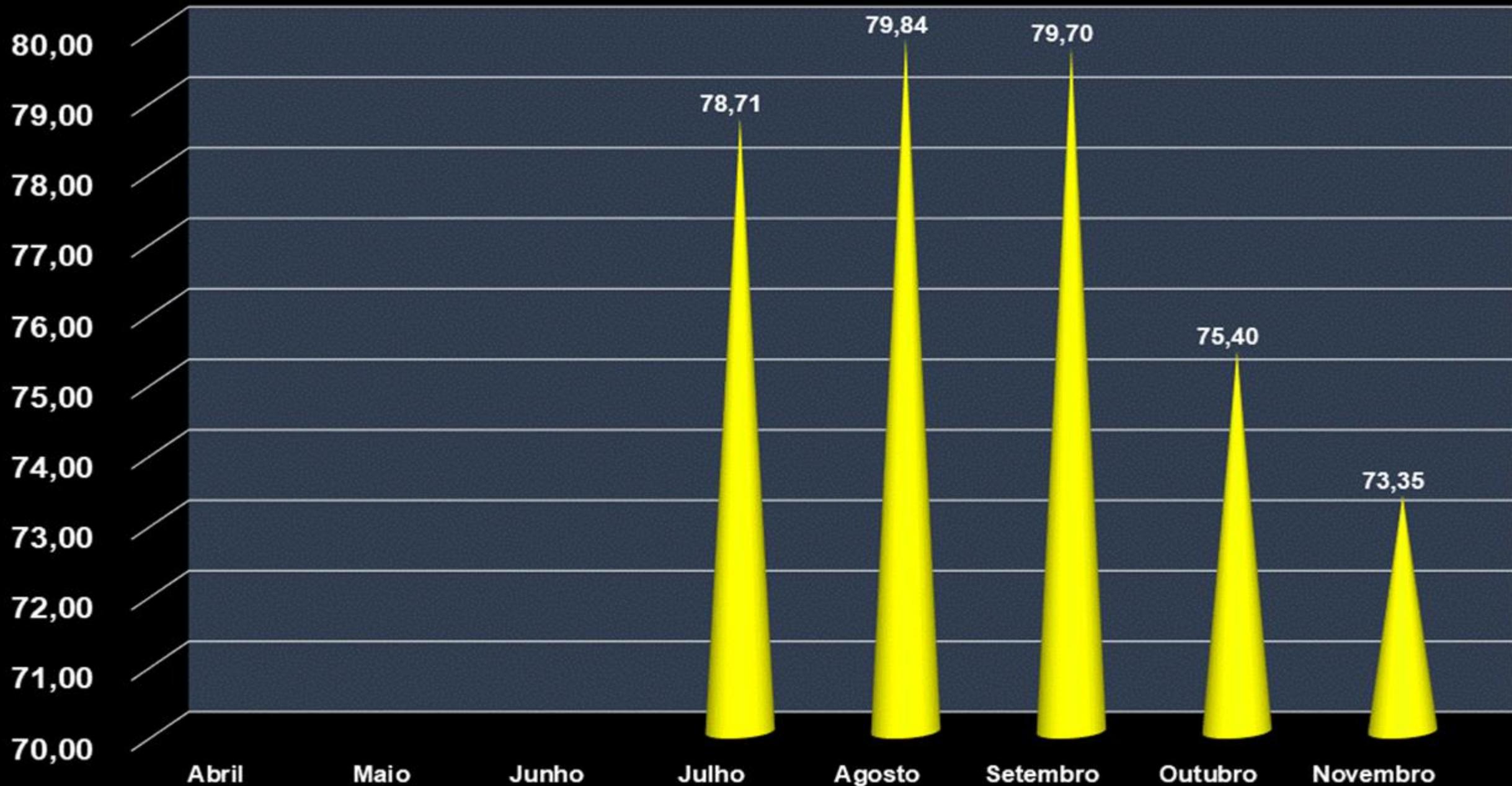
A collection of laboratory glassware including three Erlenmeyer flasks with stoppers, a graduated cylinder, a beaker, and a pipette. The glassware contains liquids of various colors: blue, yellow, pink, and green. The background is a soft gradient of blue and purple. The text 'INTERPRETAÇÃO DE DADOS E OPERACIONAL' is overlaid in the center in a bold, yellow, sans-serif font.

EXTRAÇÃO x EMBEBIÇÃO x IP

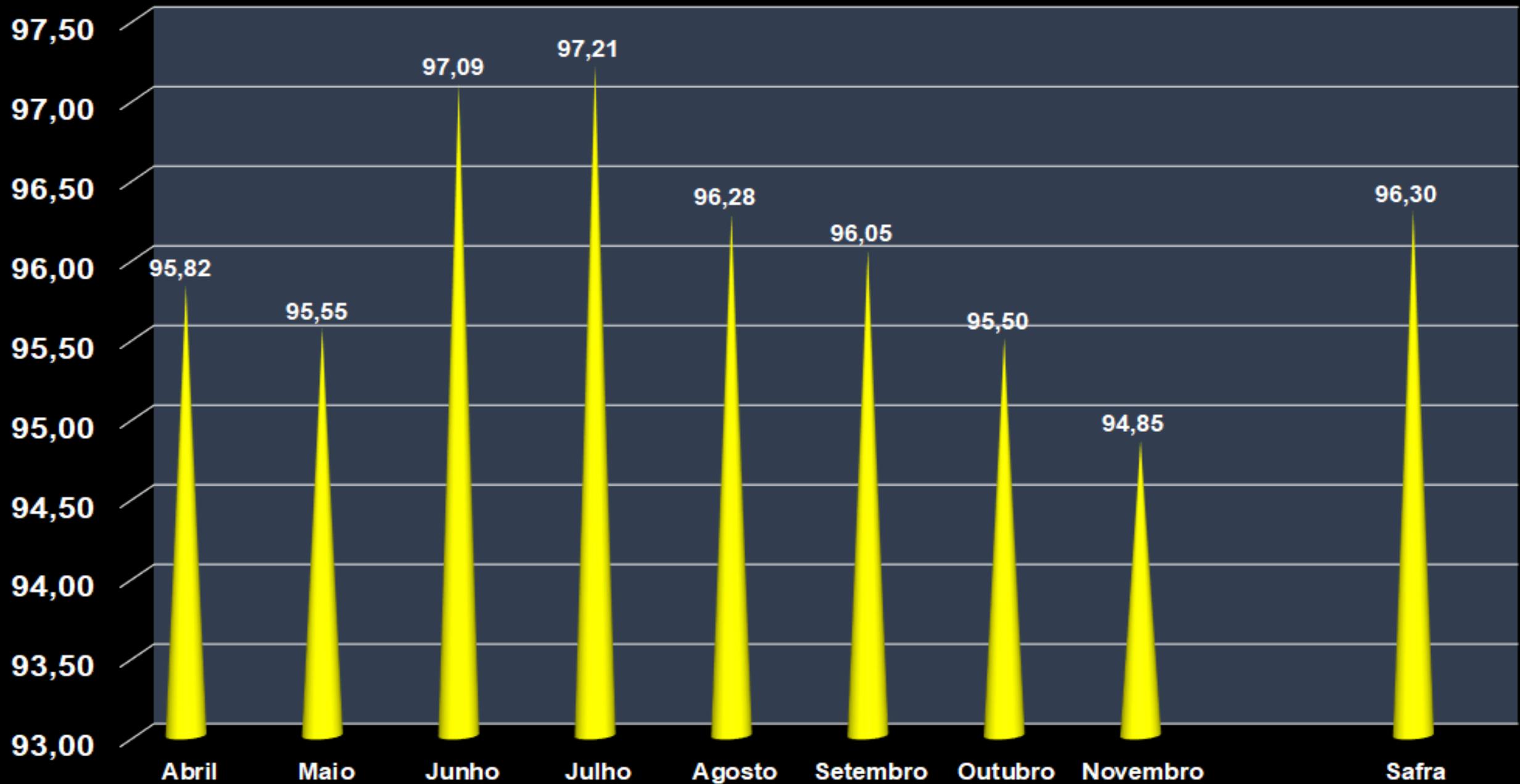
EXTRAÇÃO



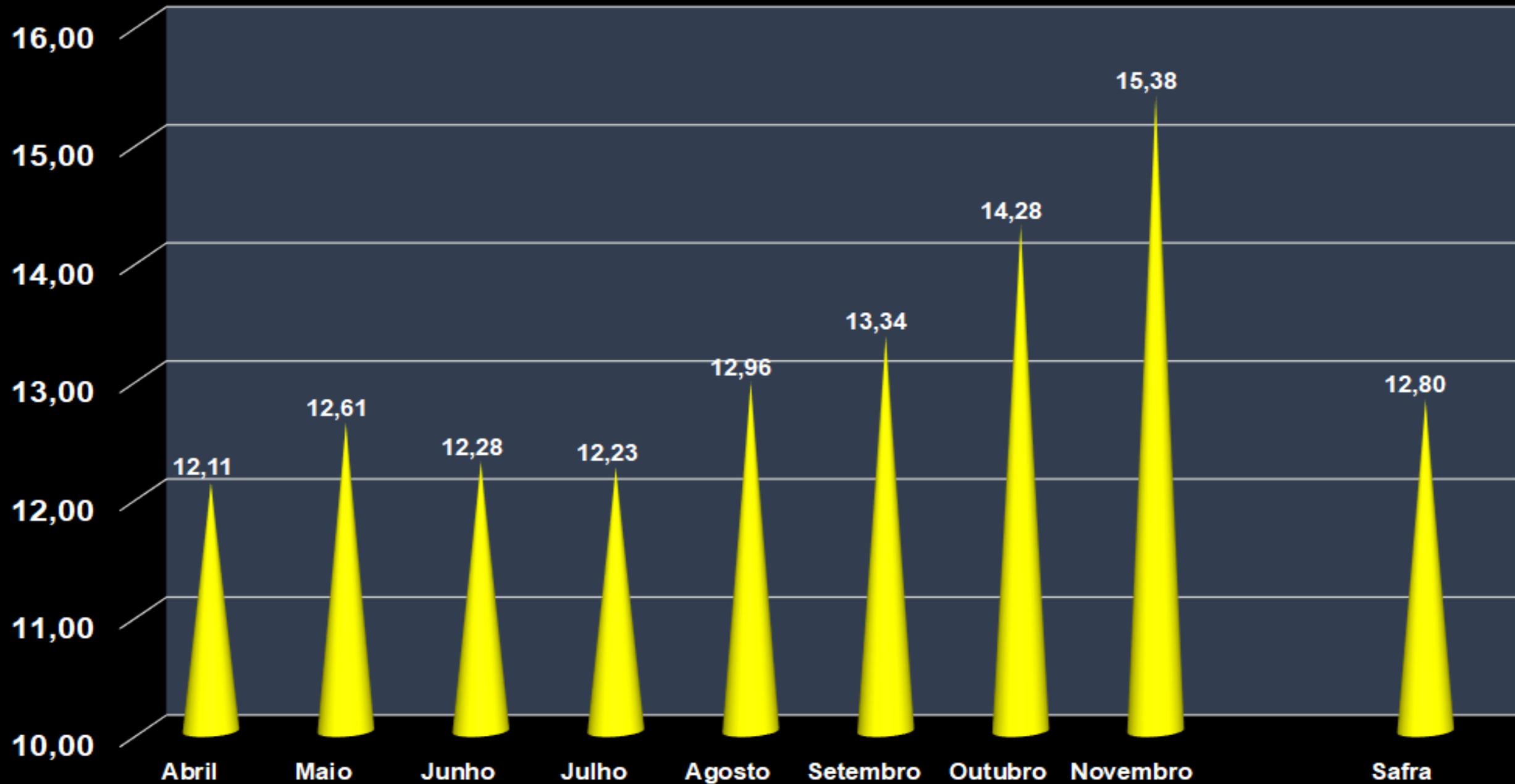
INDÍCE DE PREPARO (MOENDA)



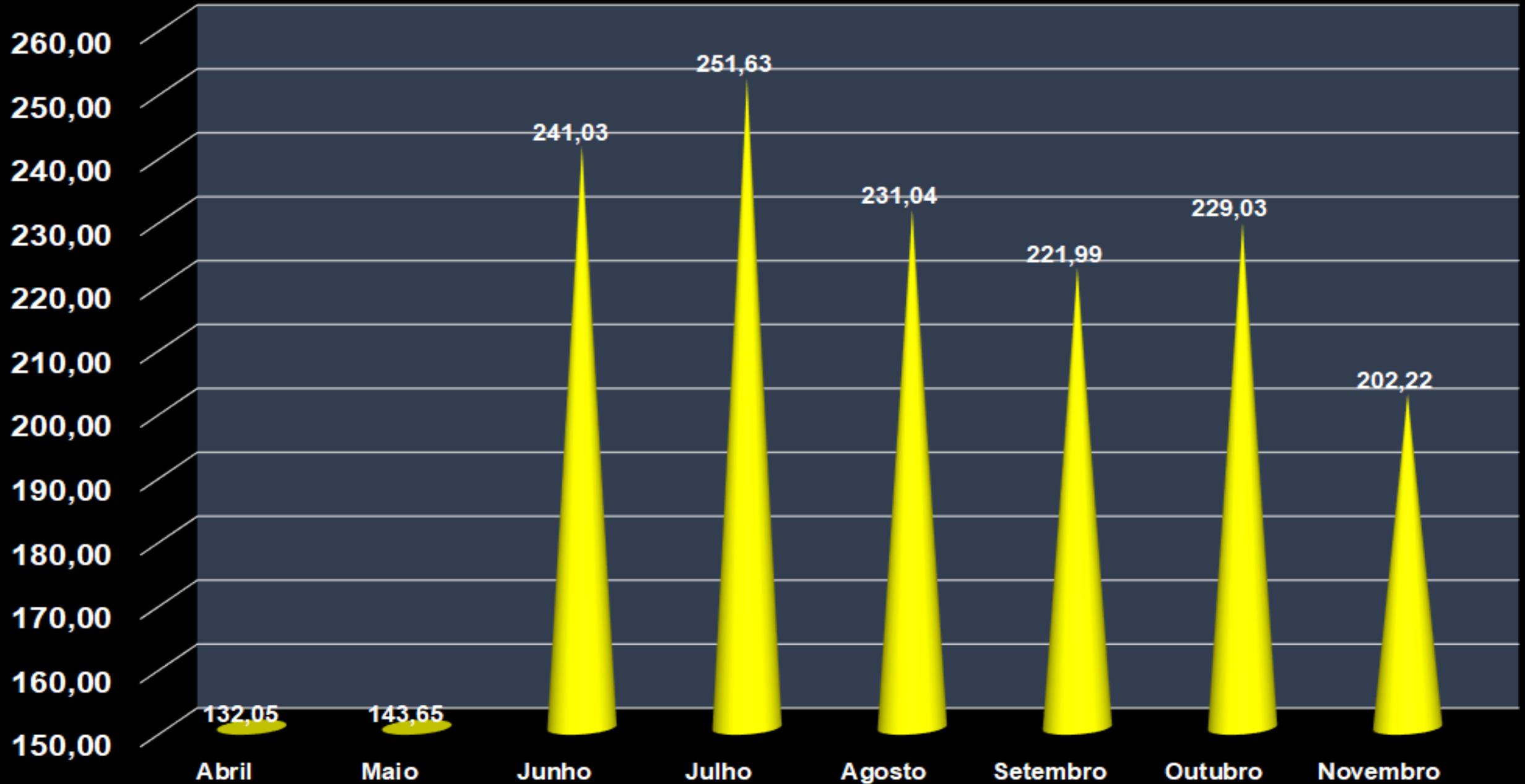
EXTRAÇÃO



FIBRA % CANA



EMBEBIÇÃO %FIBRA

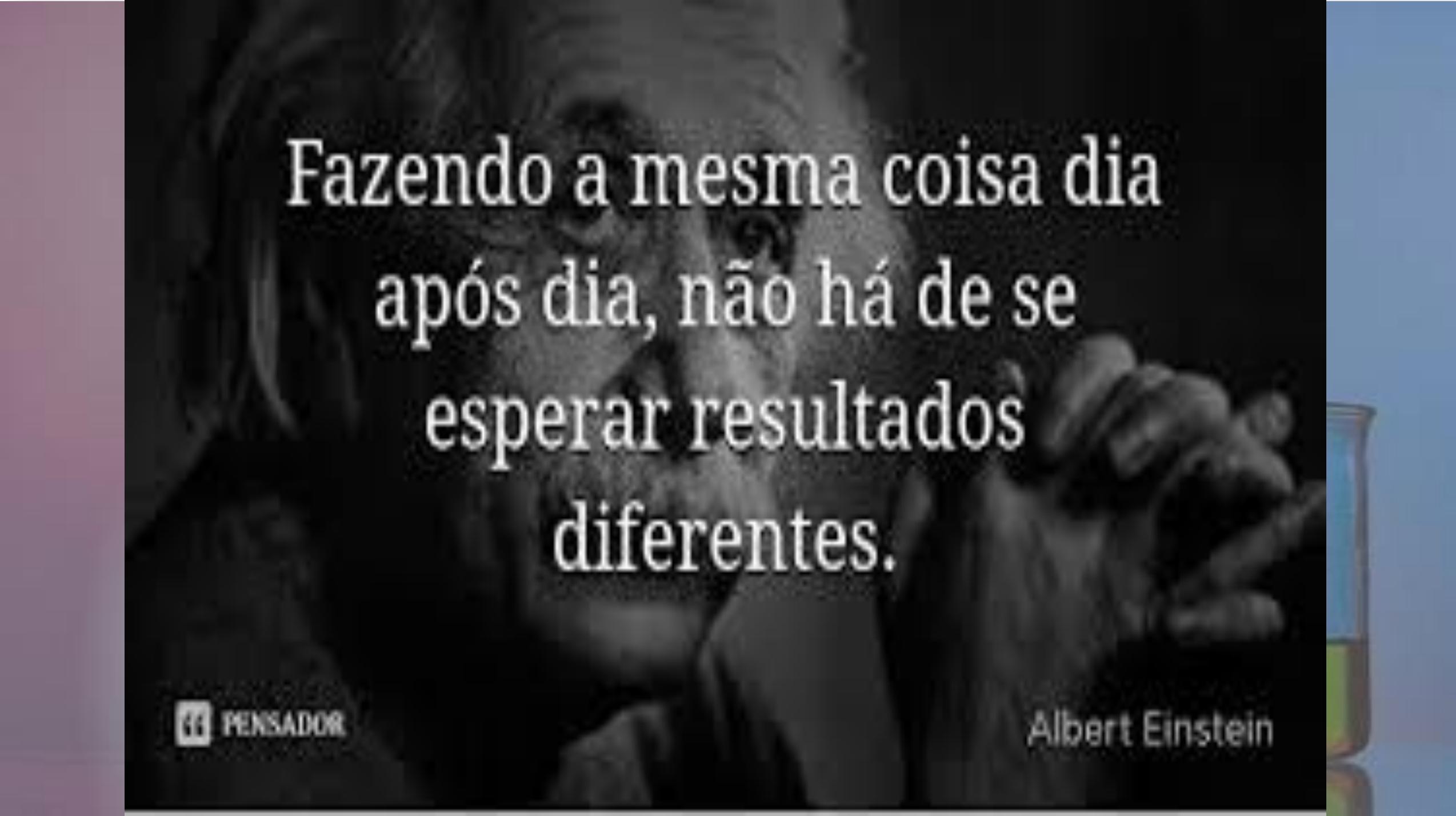


PENEIRA ROTATIVA



PENEIRA ROTATIVA





Fazendo a mesma coisa dia
após dia, não há de se
esperar resultados
diferentes.

A collection of laboratory glassware including three round-bottom flasks with stoppers, a pipette, a beaker, and a graduated cylinder, all containing liquids of various colors (blue, yellow, pink). The background is a soft gradient of blue and purple.

MUITO OBRIGADO

Achiles Mollon – A2M
19 99888-3662
achiles.a2m@gmail.com