

Report on the Grain Quality of the Entries in
THE SEVENTH INTERNATIONAL SPRING WHEAT
YIELD NURSERY 1970-71



CENTRO INTERNACIONAL DE MEJORAMIENTO DE MAIZ Y TRIGO
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RETURN THE RESULTS OF YOUR YIELD
NURSERY AS SOON AS POSSIBLE TO
AVOID DELAY IN REPORTING RESULTS
TO OTHER COOPERATORS

THANK YOU

REPORT THE GRAIN QUALITY OF THE ENTRIES IN THE SEVENTH INTERNATIONAL
SPRING WHEAT YIELD NURSERY (1970-1971)

This report is offered to cooperating scientists to assist them in selecting those entries most suitable for use either as parents in their breeding programs or as potential commercial varieties for future release. We at CIMMYT hope that is of use to you. Comments on this or other reports are invited.

EXPLANATION OF TABLE 1

Table 1 presents information on various characteristics of the 49 entries of the 7th ISWYN and the standard check flour, Gold Medal.

Test Weight

Grain density is commonly measured as the weight (in Kilograms) per volume (in Hectoliters). For cooperators more accustomed to test weight expressed in pounds per bushel, 75 Kg/Hl is roughly equivalent to 60 Lbs/bu.

Micro-Pelshenke (PK)

This test, sometimes referred to as the wheat meal fermentation - time test is used to determine gluten strength. Lines with values of more than 100 minutes can be considered as having strong gluten.

Flour Yield

The relative milling capacity of different selections is expressed as the per cent flour yielded from a known quantity of grain.

Percent Protein

Dye binding protein determinations for protein percent of the grain at 14 percent moisture can be useful in the selection of those lines with higher nutritive value.

Sedimentation Test (Sed)

Like the micro-Pelshenke value, the sedimentation value is large-

ly influenced by the quality and quantity of the grain protein. Sedimentation values of 30 CC are typical of lines with weak gluten while values of 50 CC or above suggest strong gluten.

Alveogram

The gluten characteristics of tenacity and extensibility are determined by the alveogram method. Dough tenacity or resistance to extension is expressed as "P" and dough expansion or extensibility is indicated by "G". The rates "P/G" can be used as a guide in selecting bread wheats of well balanced gluten in both soft and hard wheats. The area under the alveogram curve is indicated as "W" and is an indication of gluten strength. Bread wheats with "W" values about 300 are considered to have strong gluten whereas wheats of less than 200 have weak gluten.

Both, soft and hard bread wheats of well balanced gluten, will have a "P/G" to "W" value of approximately 1 to 100. Bread wheats with an appreciably higher "P/G" to "W" are considered "bucky" dough types.

Mixing Time

The time in minutes required for mixing dough to optimum characteristics identifies those lines with desirable characteristics for bread making. A very short or very long mixing time is undesirable.

Loaf Volume

This is the final baked bread volume measured in cubic centimeters, from 100 grams of flour as determined by the standard methods described by The American Association of Cereal Chemists.

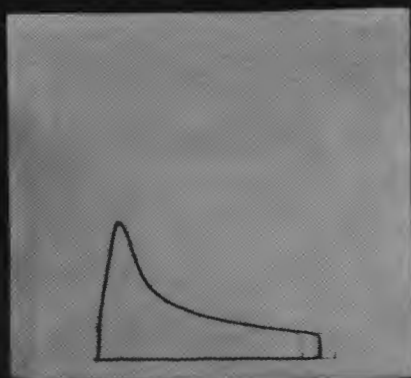
EXPLANATION OF FIGURES

The remaining pages of this report present photographs of the results of baking experiments with the entries in the 7th ISWYN and accompanying alveogram charts. Again, the last entry (number 50) is the Gold Medal check included for those cooperators wishing a quick reference when selecting varieties and crosses of the 7th ISWYN with acceptable baking quality.

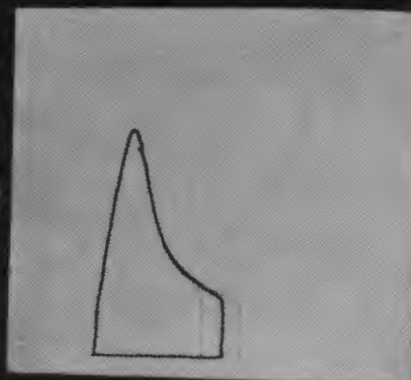
TABLE 1. Grain quality data on the entries in the Seventh International Spring Wheat Yield Nursery (1970-1971) and the check flour, Gold Medal. See text for explanations of table headings and interpretations.

Entry No.	Variety or Cross	Test Wt. (Kg/Hl)	PK (min.)	Flour Yield (%)	Protein (%)	Sed (C.C.)	Alveogram		Mixing Time (min.)	Loaf Volume (C.C.)
							P/G	W		
1	Nainari 60	78.6	41	72.3	10.2	23	3.1	136	1.15	645
2	Pitic 62	77.8	33	67.1	9.2	17	6.8	172	1.35	545
3	(Tzpp-Son64) (LR64-TzppxAnE)	82.1	120	72.2	11.3	41	9.9	365	2.05	745
4	Carazinho	78.1	42	71.1	11.3	30	4.6	196	1.25	735
5	Bonza 55	78.2	37	74.4	10.8	25	2.5	152	1.20	730
6	Piamontes	81.3	141	74.5	13.0	41	6.1	421	2.10	800
7	36896-CJ54 ² x Yt54A(H)	79.7	31	70.6	9.6	17	5.4	125	1.05	500
8	Penjamo 62	81.0	33	70.0	9.1	17	5.1	140	1.05	585
9	Son64A x Tzpp-Nai60(C)	80.2	138	76.2	11.1	40	6.7	423	2.40	770
10	Gaboto	80.2	108	75.9	11.5	36	4.8	260	1.40	695
11	C271-Wt(E) x Son 64	81.5	36	76.1	10.1	25	4.9	168	1.50	660
12	Pato Argentino	80.6	59	72.4	10.3	33	5.0	237	2.40	745
13	Son64 x Tzpp-Nai60 (B)	77.7	129	72.2	11.0	37	8.7	389	2.15	740
14	7 Cerros	81.4	34	71.1	9.4	30	Ten ¹		1.35	615
15	Zambezi	80.4	42	76.8	9.8	34	9.8	352	1.45	675
16	Giza 155	79.9	39	66.6	10.4	27	4.7	190	1.30	700
17	Syrimex	81.1	38	71.8	8.9	19	3.4	134	1.15	615
18	Napo 63	80.7	36	75.9	10.4	23	3.6	156	1.20	655
19	C306	82.9	34	77.6	9.5	22	Ten.		1.30	470
20	Victor I	78.6	31	72.1	9.4	20	6.7	178	1.15	535
21	Chris	79.4	138	74.4	13.9	43	4.9	385	1.35	880
22	(LR64 x N10-B) An ³ _E	81.6	40	74.5	9.5	21	6.1	172	1.15	675
23	Saric 70	80.6	122	72.8	9.7	36	9.0	370	2.50	725
24	Huelquen	80.8	42	67.0	10.1	32	7.1	245	1.40	680
25	IAS-20 IASSUL	76.3	38	69.8	12.5	24	3.1	155	1.00	680
26	Turpin 7	75.2	37	70.0	9.9	25	5.6	198	1.30	580
27	Inia 66	83.2	131	73.8	14.3	42	4.6	402	2.20	770
28	Timgalem	78.3	54	70.3	12.7	33	6.2	406	1.50	785
29	Lundi	79.3	47	70.7	12.2	34	Ten.		2.00	705
30	Crespo	80.7	38	74.8	10.8	28	4.6	223	1.30	660
31	Potam 70	81.3	54	73.4	9.6	30	2.9	176	2.10	705
32	Chhoti Lerma	82.4	36	70.5	9.3	22	3.5	155	1.20	630
33	Sonalika	81.6	40	73.6	10.4	24	4.5	123	1.10	655
34	Cajeme 71	81.2	144	71.3	9.5	34	5.9	322	3.10	730
35	Seikirk	73.9	160	64.4	11.7	33	7.0	272	2.20	785
36	Tob x 8156 (R)	81.2	39	74.0	10.4	28	9.5	202	1.40	610
37	BT - 2288	82.0	70	71.0	9.8	32	5.2	254	1.55	730
38	Lerma Rojo 64A	81.8	35	76.5	10.3	21	2.6	103	1.10	620
39	Hazera - 2152	80.2	35	71.0	10.2	25	4.1	157	1.20	565
40	Tobari 66	81.5	120	78.2	11.0	37	5.1	325	2.25	725
41	Safed Lerma	81.1	38	73.9	10.1	19	2.3	116	1.00	665
42	Yecora 70	81.1	115	74.2	11.0	39	6.5	354	3.00	720
43	Mexico # 120	80.2	31	68.2	8.9	12	5.4	103	1.10	500
44	BT-2281	81.2	82	76.2	9.9	30	3.0	201	2.25	750
45	Nuri 70	83.0	141	76.8	10.8	36	7.1	267	2.45	705
46	Palmira I	76.3	41	70.0	11.2	21	3.8	181	1.00	675
47	Son 64 x Kl. Rend.	80.4	145	74.2	11.3	36	8.2	338	2.20	675
48	Up. 301	79.0	65	69.7	9.9	29	7.2	279	1.55	615
49	Buck Manantial	78.9	155	67.6	11.2	44	Ten.		2.50	700
50	Gold Medal	-	-	-	12.7	43	4.5	380	2.30	825

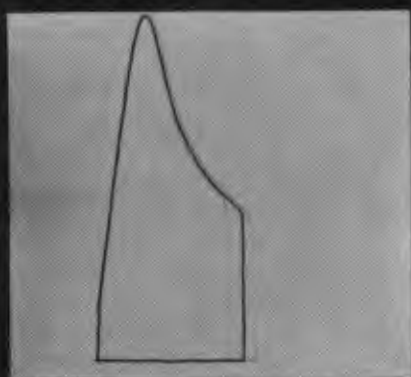
¹
TENACIOUS



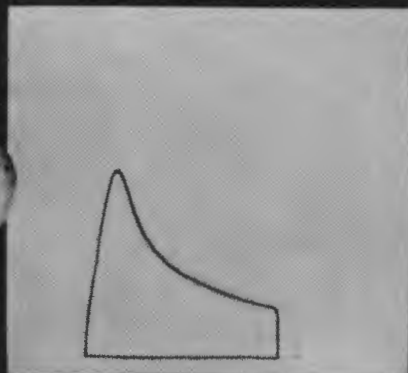
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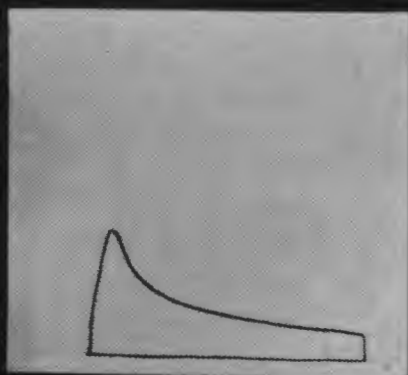
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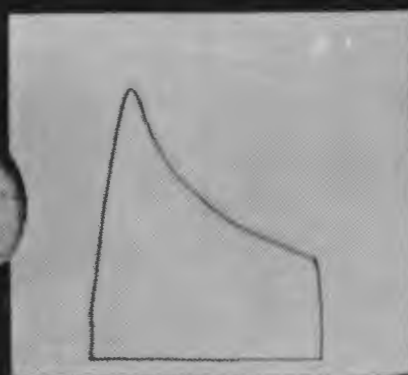
3- (Tzpp-Son64) (LR64-Tzpp x Anç)



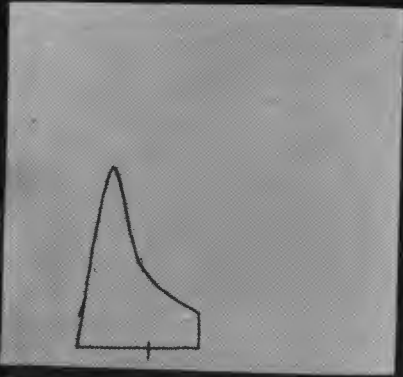
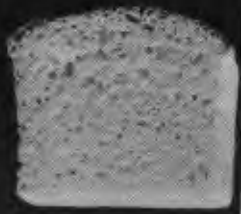
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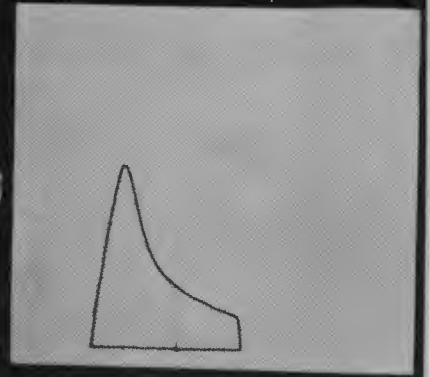
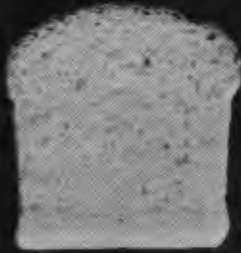
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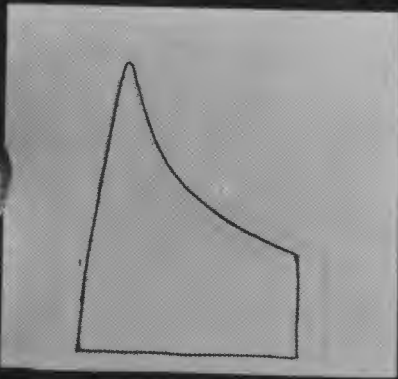
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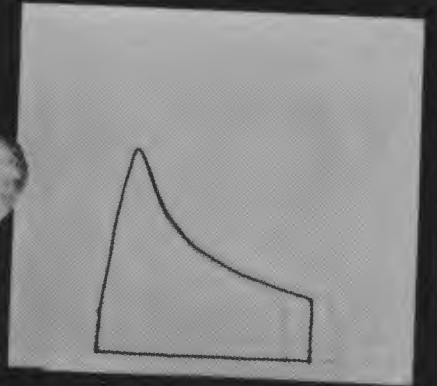
7- 36896-CJ54² x Yt54A(H)



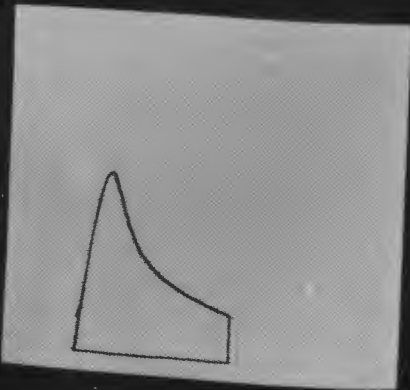
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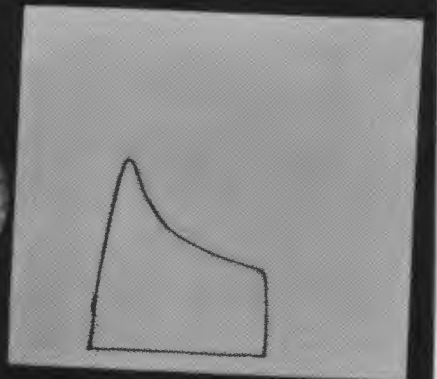
9- Son64A x Tzpp-Nai60(C)



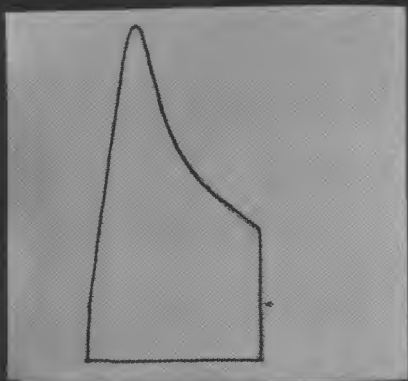
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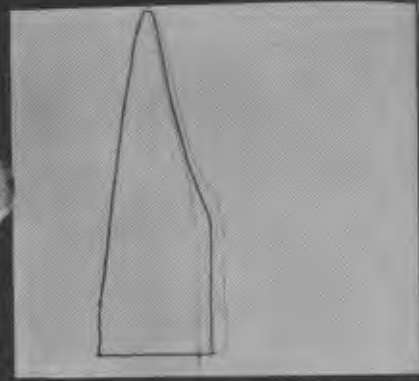
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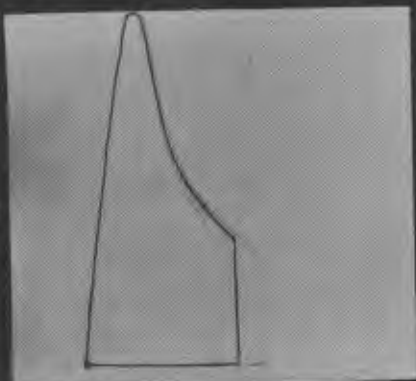
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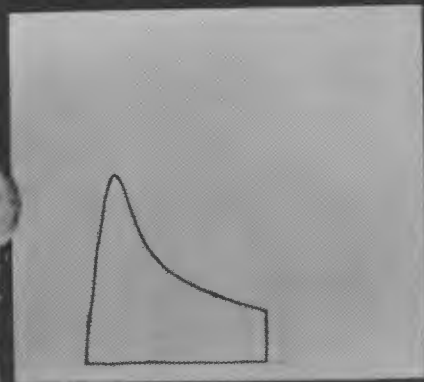
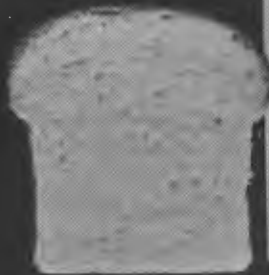
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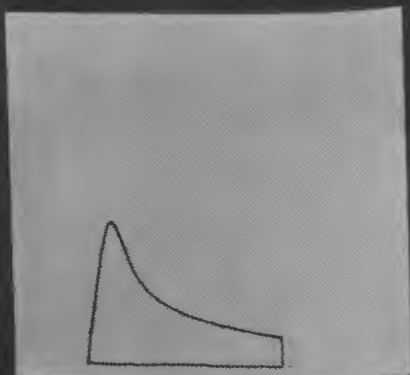
14- 7 CERROS



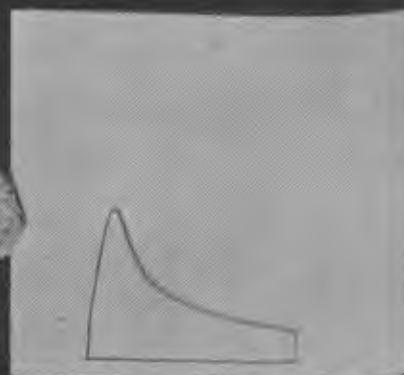
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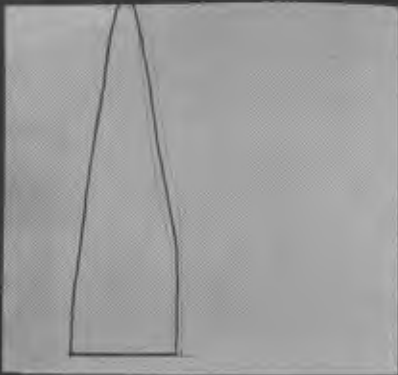
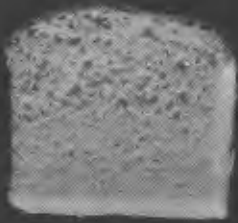
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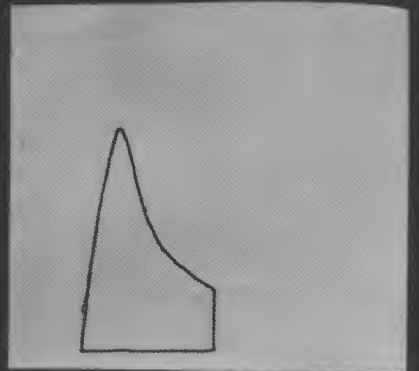
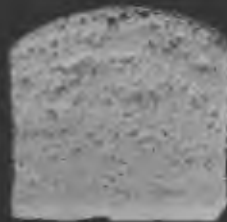
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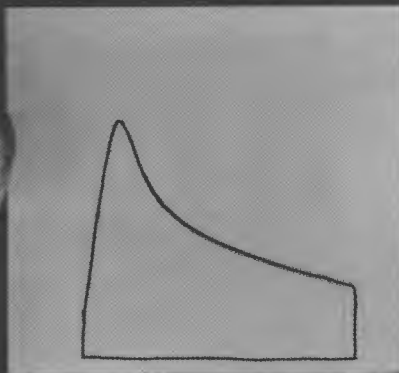
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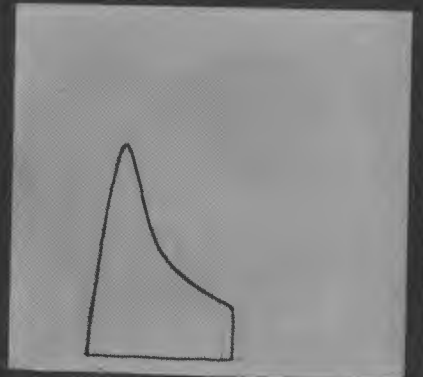
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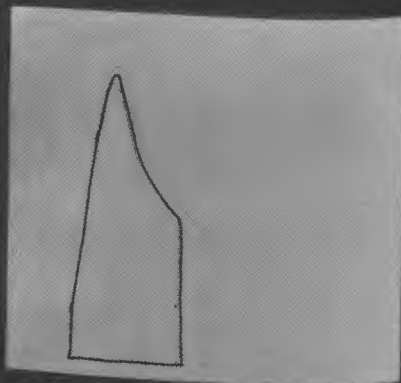
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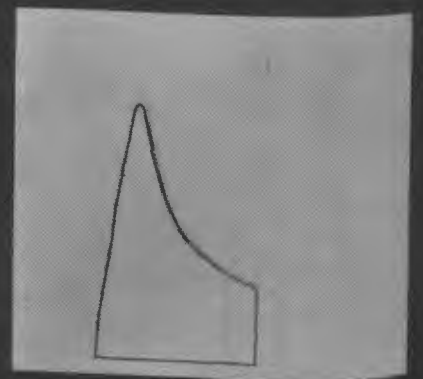
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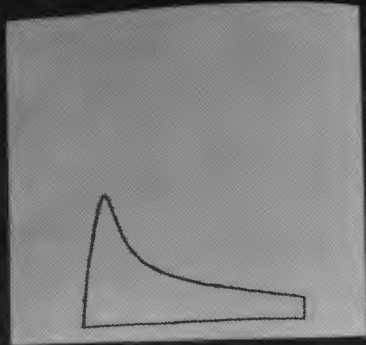
22- (LR64 x. N10-B) An³ E



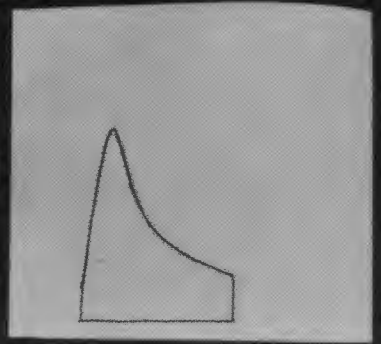
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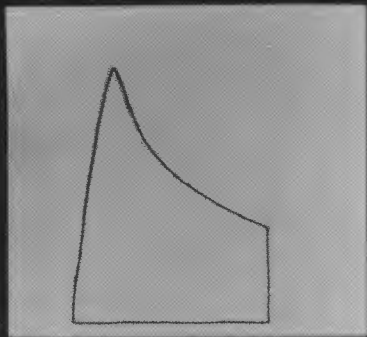
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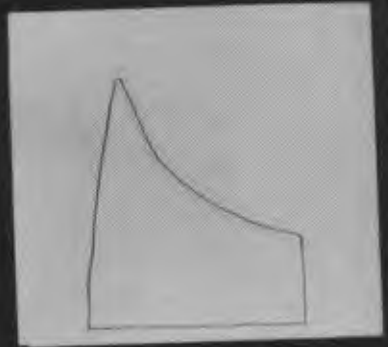
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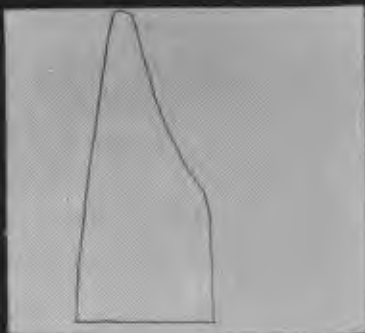
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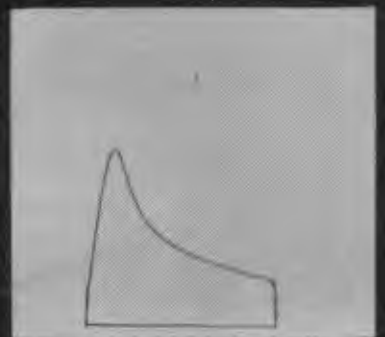
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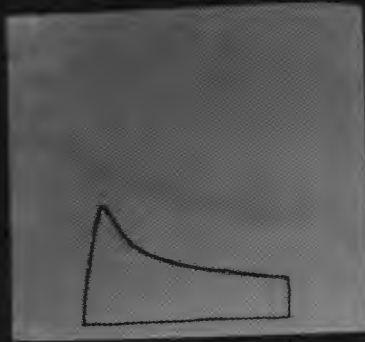
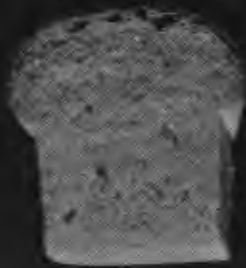
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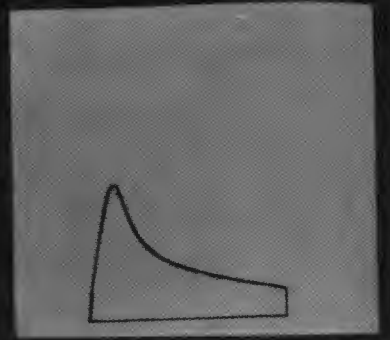
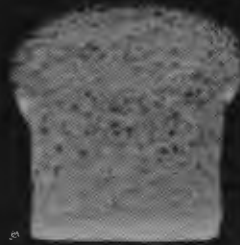
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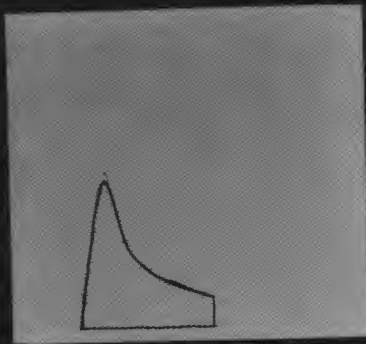
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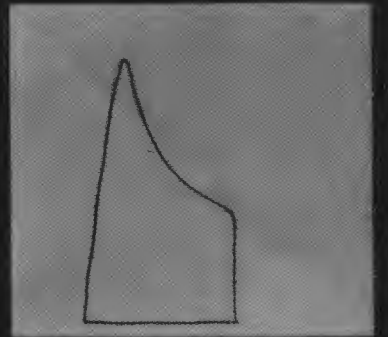
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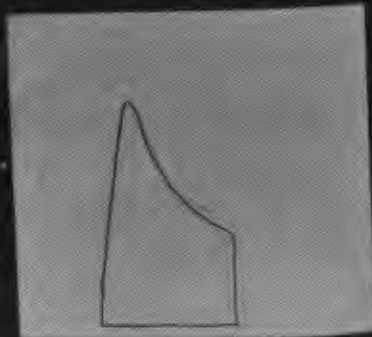
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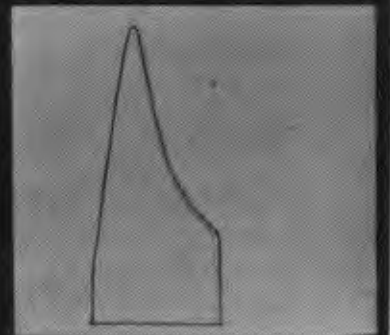
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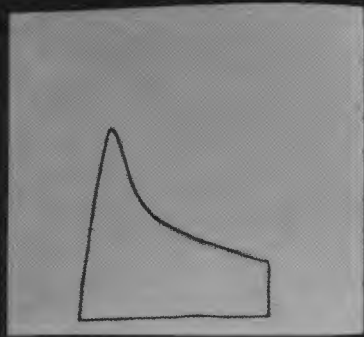
34- CAJEME 71



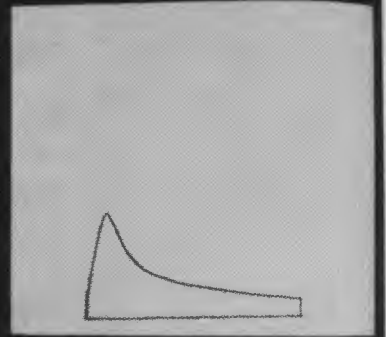
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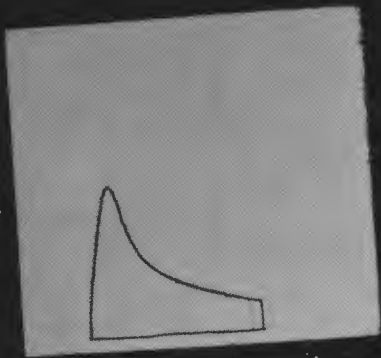
36- TOB x 8156 (R)



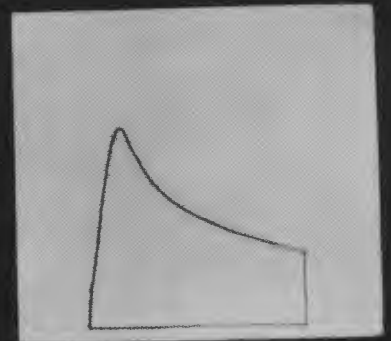
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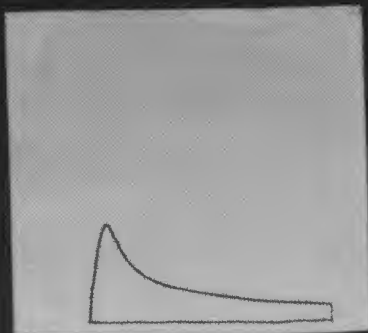
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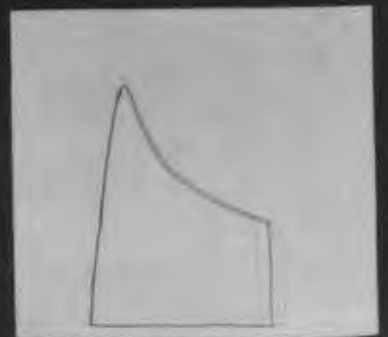
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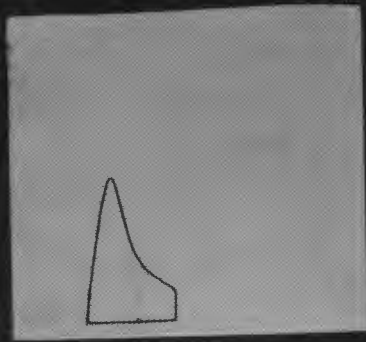
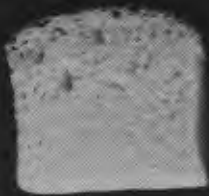
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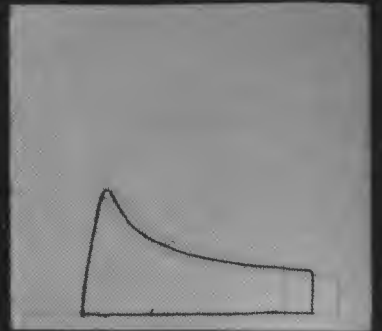
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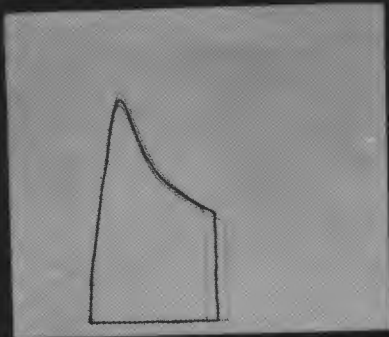
42- YECORA 72



43- MEXICO #120



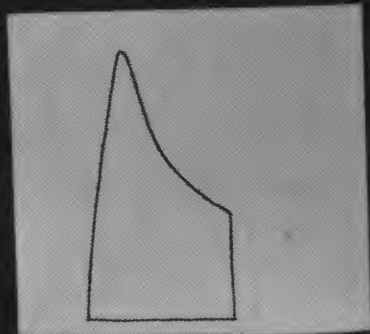
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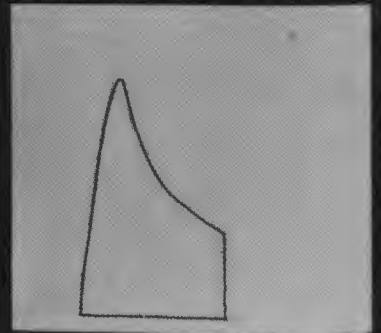
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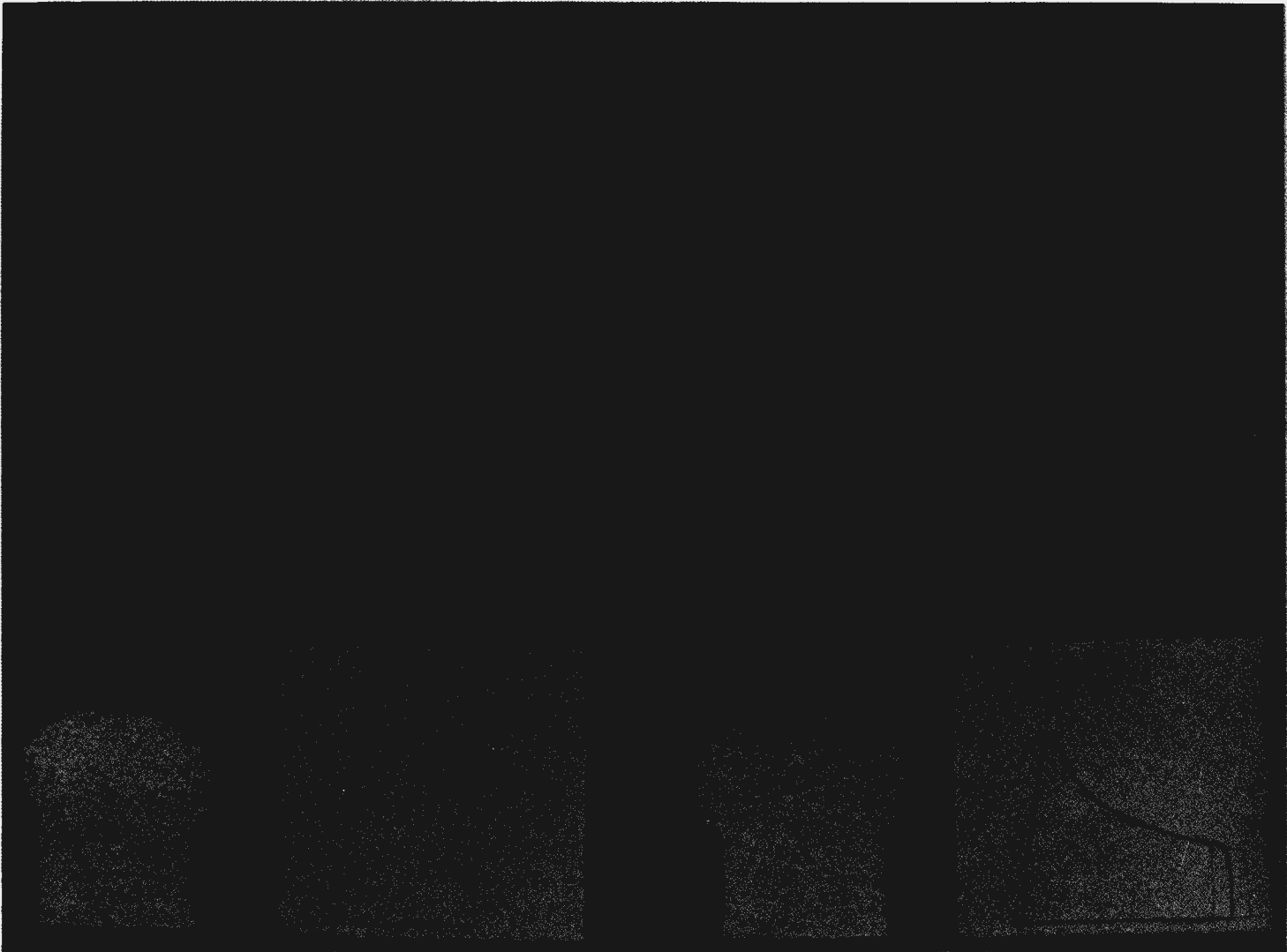
46- PALMIRA 1



47- Son64 x K1. Rend.



48. UP. 301



49- BUCK MANANTIAL

50- GOLD MEDAL



