

**Broken out Egg Quality:  
Haugh Unit an Objective Measure**

**Kenneth E. Anderson**

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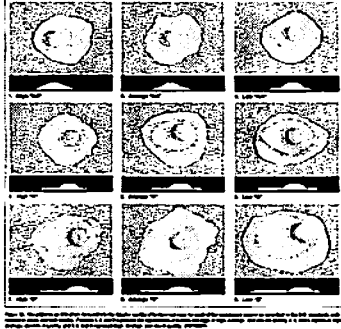
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USDA grades for broken out eggs



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Conventional Breakout Table with Micrometer

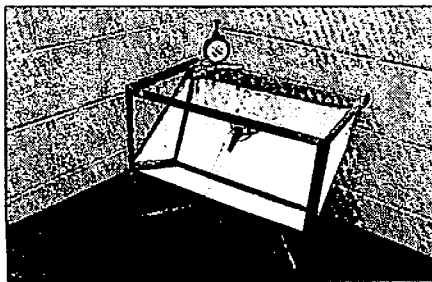


Figure 51. Egg breakouts are conducted on equipment which typically includes a metal stand, glass top, and reflective mirror. (CO 8202 3241 1143-11)

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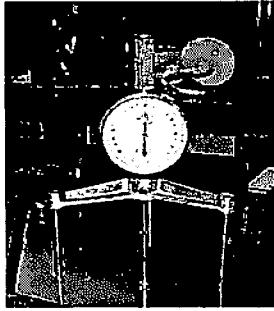
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Micrometer  
Measures the  
height of the  
albumen



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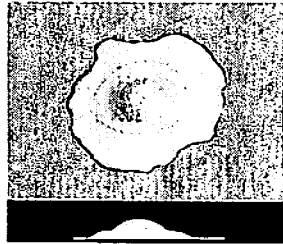
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Location on albumen to measure the height

Measure the  
albumen height  
at the point  $\frac{1}{2}$  the  
distance from the  
yolk to the edge  
of the outer thick  
albumen.



Note: Stay away from  
The chalazae

2. Average "AA"

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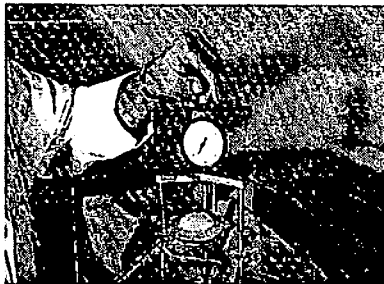
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Demonstration of the use of the breakout table and  
micrometer for the determination of the Haugh Unit Score



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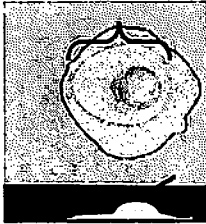
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**HAUGH UNIT CONVERSION CHART**

Haugh Unit	USDA Grade	Haugh Unit	USDA Grade
65	B	75	A
66	B	76	A
67	B	77	A
68	B	78	A
69	B	79	A
70	B	80	A
71	B	81	A
72	B	82	A
73	B	83	A
74	B	84	A
75	B	85	A
76	B	86	A
77	B	87	A
78	B	88	A
79	B	89	A
80	B	90	A
81	B	91	A
82	B	92	A
83	B	93	A
84	B	94	A
85	B	95	A
86	B	96	A
87	B	97	A
88	B	98	A
89	B	99	A
90	B	100	A
91	B	101	A
92	B	102	A
93	B	103	A
94	B	104	A
95	B	105	A
96	B	106	A
97	B	107	A
98	B	108	A
99	B	109	A
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101	B	111	A
102	B	112	A
103	B	113	A
104	B	114	A
105	B	115	A
106	B	116	A
107	B	117	A
108	B	118	A
109	B	119	A
110	B	120	A
111	B	121	A
112	B	122	A
113	B	123	A
114	B	124	A
115	B	125	A
116	B	126	A
117	B	127	A
118	B	128	A
119	B	129	A
120	B	130	A
121	B	131	A
122	B	132	A
123	B	133	A
124	B	134	A
125	B	135	A
126	B	136	A
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135	B	145	A
136	B	146	A
137	B	147	A
138	B	148	A
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140	B	150	A
141	B	151	A
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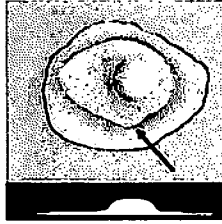
**No. 4 High A**

The albumen has expanded and the yolk is beginning to flatten



**No. 6 Low A**

The outer thick albumen is beginning to breakdown.



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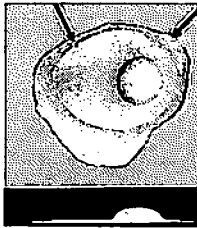
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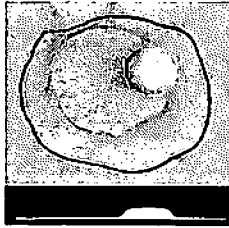
**No. 7 High B**

Outer thick albumen continues to become thinner and breakdown



**No. 9 Low B**

Differentiation between the outer thin and outer thick albumen almost imperceptible



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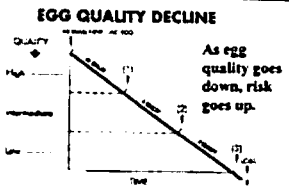
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From the moment an egg is laid the interior quality begins to decline. The milestones are indicated by the change in grade from AA to B



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