



INTERNATIONAL PACIFIC



HALIBUT COMMISSION

Chalky Pacific halibut

Agenda Item 6.1.2
IPHC-2020-RAB021-05

“Chalky” halibut

- Build up of lactic acid in the muscle tissue prior to death
- Denatures the proteins giving the flesh a “cooked” appearance



Possible causes of chalky

- Relevant investigations:
 - Bailey 1950s – first described chalky, opaque flesh
 - Thompson et al. 1960s – capture method: longline vs trawl
 - Kaimmer 1990s/2000 – longline landing practices, sex, size
 - Foy et al. 2006 – soak time, temperature
 - Hagen et al. 2011 – enzyme activity, sex, size (Atlantic farmed halibut)



Possible causes of chalky

- Linkages from literature
 - Correlations with:
 - Sex – Males more likely to be chalky compared to females
 - Maturity – mature fish more likely to be chalky, especially in males
 - Time on deck – longer time between catch and slaughter resulted in less chalky regardless of capture method
 - enzyme activity – mixed but interesting results
 - Likely not just one factor, but rather a combination of several factors



In response to RAB019 rec. 3

- IPHC industry survey launched in 2019
 - Fish statistics group made contacts – thank you!
 - 14 processors in Alaska
 - 2 processors in B.C.



Year:

IPHC Landed Chalky Pacific Halibut Logbook

Processing Facility:

Port:

Page: of



Catch Dates (Month Day)	Vessel	IPHC Reg Area	Fish Ticket	Offload Weight (lbs)	Chalky Weight (lbs)	Chalky ID Method (v, ci, pH, o) ¹	Flesh Location of Chalk (bs, ds, bth) ²	Different Grades? (y, n) ³	Average weight of chalky fish (lbs)	Comments

Comments



¹ v = visual, ci = colorimetric instrument, pH = pH meter, o = other (explain in comments)
² bs = blind side, ds = dark side, bth= both
³ If y= yes, n = no (if y, please indicate the number of different grades)

2019 revisit of chalky prevalence

- IPHC industry survey launched in 2019
 - Fish statistics group made contacts – thank you!
 - 14 processors in Alaska
 - 2 processors in B.C.
- Responses low
 - 1 processor in Alaska
 - 1 processor in B.C.



Comparing with past surveys

	1996*	1997*	1998*	2019
No. reports rec'd	22	14	27	2
Chalky fish reported (lbs)	58,000	124,000	375,000	92,000
Landings represented (Mlbs)	11.8	17.0	57.8	1.4
% chalky of represented landings	0.5%	0.7%	0.6%	6.6%
Total landings (Mlbs)	43.9	47.3	65.0	23.9**
% of fish landings represented in reports	26.9%	35.9%	88.9%	5.9%

* Data from Kaimmer (2000)

**This total is from reported fish tickets and may not yet be complete for 2019.



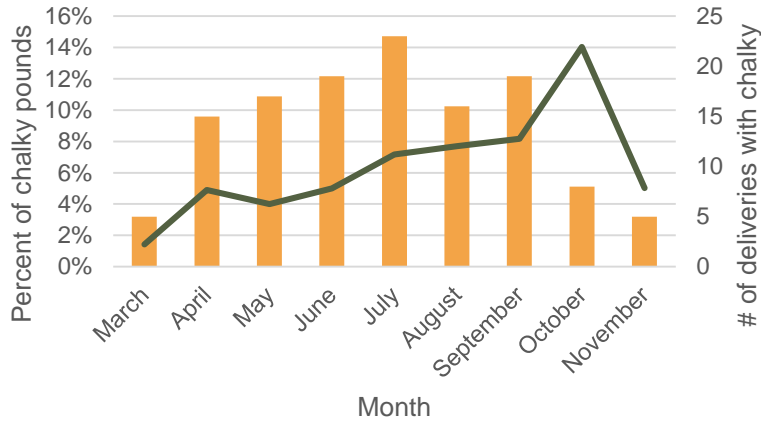
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Limited in what we can conclude because of small sample size



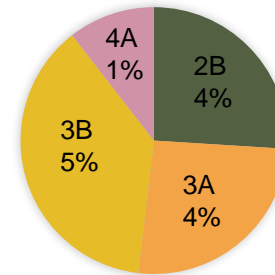
% CHALKY BY MONTH



- Steady increase over time through October

- Differences among Regulatory areas

% CHALKY BY REGULATORY AREA



Future work

- In 2020, try the survey again – maximize participation
- Alaska Seafood Marketing Institute (ASMI) has expressed interest in working on this issue – possible collaboration

