

**Narrator:** David Hearn (DH)

**Company Affiliations:** Canadian Grain Commission (CGC)

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**Interviewer:** Nancy Perozzo (NP)

**Recorder:** Nancy Perozzo (NP)

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**Summary:** Canadian Grain Commission grain sanitation officer David Hearn discusses his career in both the CGC's protein lab and entomology lab in Thunder Bay. In the protein lab, he describes the daily work and tests on grain samples, changes to methods of testing, and the number of staff. In the entomology lab, he describes lab work as well as field work inspecting for insect infestations in grain, elevator bins, ship holds, and railcars. Hearn details the sampling and testing process step by step, lists the common grain pests in Canada, shares methods of infestation prevention, and discusses fumigation measures to deal with pests. Other topics discussed include working with the Canada Food Inspection Agency, upholding Canada's global reputation for insect-free grain, changes to dust control due to elevator explosions, working as a pest control operator, memories of dangerous elevator environments, and the downsizing of the entomology lab and CGC as a whole.

**Keywords:** Canadian Grain Commission; CGC protein lab; CGC entomology lab; Grain science; Agricultural science; Grain protein testing; Grain inspection; Entomology; Grain pests; Elevator inspection; Chemical tests; Kjeldahl testing; Berlese funnel testing; Rusty grain beetle; Weevils; Thunder Bay terminal grain elevators; Phosphine gas fumigation; Malathion insecticide; Pesticides; Rodents; Canada Food Inspection Agency; Grain dust; Dust control; Grain transportation—rail; Boxcars; Grain transportation—ships; Country elevators; Grain elevator disasters; Grain elevator explosions; Cargill Elevator—Thunder Bay; Saskatchewan Wheat Pool Elevator 4A and B; Manitoba Pool Elevator 3

Time, Speaker, Narrative
NP: Nancy Perozzo interviewing on June 11 <sup>th</sup> , 2014, at the home of our narrator this evening, and I will have him introduce himself and comment on his connection to the grain trade.

DH: David Hearn. I started working for the Grain Commission in 1972, and I started in the protein lab. What to start--.

**[Audio pauses]**

NP: Sorry for that. I had to break for a cough. So, you started in the protein lab?

DH: Right. As an assistant, and then I finished off as a grain sanitation officer. Continue on?

NP: And you started in--?

DH: 1972.

NP: And worked for how many years?

DH: 31 years.

NP: 31 years.

DH: 31.

NP: Okay.

DH: Yeah.

NP: How did you become interested in working with the Canadian Grain Commission [CGC]?

DH: Interestingly enough, I went back to university. I was working in a medical lab at McKellar Hospital in Thunder Bay or Fort William, I guess, at that time. I decided to go back to university, and I did a major in biology with a minor in chemistry. When I graduated, they don't save jobs for you in the lab, so there was nothing available. So I looked to see what there might be, and this was being advertised just at that time, so I applied, and I got it.

NP: There weren't that many jobs, though, directly related to the work that you did at university, so it must have been such a plum position to get at the time.

DH: Yeah. Well, they wanted chemistry for sure, and I had a minor in chemistry so that really helped. You know, the fact that I was in the job market before too might have helped. I don't know. I don't know how many people applied, but I ended up as the assistant. And--.

NP: Was it--. Sorry.

DH: And it was supposed to be--. There was two shifts, and we were going to alternate with the head, Wally Zarowski. And after I was hired, he informed me that he couldn't work the 4:00 to 12:00 shift because he had a store. [Laughs] So I got the 4:00 to 12:00 shift a lot. Yeah.

NP: Were there lots of people working at the lab at the time?

DH: I don't know an exact number, but there was a lot. I would say 16 maybe. 16, 18, somewhere in there.

NP: Had it just started up?

DH: It did, yeah. That was something new for the Grain Commission. They had just--. In fact, when we started, it wasn't even totally operable yet, so we started right from scratch and helped set it up. Wally got hired first, and then myself, and then the other people. A few of the people that started in the protein lab actually went on to greater things. Rick Bevilacqua comes to mind. That's the main one I can think of. So what we did there is the Kjeldahl process, chemical process for checking the protein in wheat, which they didn't use to do in Thunder Bay before.

NP: Perhaps we can step back a bit. To people listening, they wonder, "Well, what's the connection between a protein lab and grain?"

DH: Right. Well, they started selling wheat on a premium basis based on the amount of protein in it. So the higher amount of protein, the higher they could charge for the wheat. I think that was relatively new.

**[0:05:12]**

NP: Why was protein such an important factor?

DH: The higher the protein, the better it is for breadmaking. If you like a bread like we do where it rises a lot, the protein helps it do that. I think before that, they were just selling it by grade. I never was in that sector, so I can't say too much about that.

NP: So did each of the grades have protein levels then? So could you buy a No. 1 with a certain percentage of protein and a No. 2 with a certain percentage of protein? Or was the protein part of the classification, do you know?

DH: You know, I think it started out, if I recall< it was just the No. 1 grade they were using protein on. Because it drops of pretty fast. When you get to a [No.] 3 grade, I don't even know what they use that for. Possibly they might blend it, or they have other uses. But yeah, I think it started out--. And it was Red Spring wheat that we were doing. No durum, for instance.

NP: Because that's used for--?

DH: Yeah. I think later on they did start doing durum, but macaroni, that sort of thing, spaghetti, I don't think it mattered as much. But I think after I left, I think they did start doing durum.

NP: So when you think back to the early time with the protein lab, can you describe a typical day or shift?

DH: Yeah. We used to go in there, and different people would be assigned different jobs. We used to have a grinder and a weigher, and we had all these glass flasks of which you put a weight amount of the ground wheat into, and then you added the chemicals, and then we added the acid. We heated them for--. You know, I actually forget the length of time, but 20 minutes or half an hour. Something like that. We cooked them up, and then they were analyzed for the amount of protein.

NP: And was every boxcar shipment of wheat at that grade level, did it go through? Or did you just do representative samples?

DH: You know, I'm trying to--. I think we did all the Red Spring that came in in the top grades. They'd send in a portion for the protein lab. Then it would get binned accordingly. They would know what would be in, and they could combine them all.

NP: Well, I'm wondering the logistics of this because oftentimes the samples of grain are taken at the elevator as the grain is being unloaded.

DH: Mmhmm.

NP: So if they take the sample for this particular test at the elevator, haven't they already binned it before they've got the protein content?

DH: They have. It is binned, all right. I don't know. See, I mean, you could combine it all into a bin and do the protein analysis going by the amount of tonnes you've got in there, I imagine. But it didn't seem--.

NP: Or was the protein done on shipping?

DH: It was done on shipping as well, and there you'd get a truer picture. Maybe we didn't do all the stuff coming in. It seemed like we did an awful lot though. [Laughing]

NP: 16 people beavering away at the grinder and the scales.

**[0:10:02]**

DH: Yeah. We did a record amount. Our lab was--. I know that we would do like 20, 22 batches in a day, and we had banks—one, two, I think there was four—at least four banks possibly six banks of Kjeldahls.

NP: And what are Kjeldahls?

DH: Oh, it was the glass flask, and then they'd have to go onto burners. Many a time, you'd burn your arms. You wore oven mitts. I hope they weren't asbestos-lined, but the probably were. But anyways, they were partway up your arm, and you'd be leaning over, and if you touched the flask or any of the components, you'd get a burn on your arms.

NP: Were there ever any accidents there? I mean, other than the--.

DH: Serious? I don't think anything serious. The odd time the flask would get broken accidentally. Burns. I remember getting a whiff of the acid one time.

NP: What kind of acid was it, do you recall?

DH: I'm trying to think whether it was sulphuric or hydrochloric. I can't remember.

NP: Did people tend to stay? Like just listening to you talk about the job division—grinder, weigher—what other positions would there be? So somebody ground the sample, someone weighed out the appropriate amount, somebody would have actually have done the test.

DH: Yeah. And then there was always--. We had to have standards. Wally often did that. I would have to do it sometimes as well. We'd have to--. There was a paper component. We'd have to mark it down with the car number and everything, then it went to the office, of course. And in those days when we first started, they didn't have all the--. I think it used to go by, I'm thinking, ticker tape.

NP: Telex?

DH: Yeah. I guess. Telex. [Laughing]

NP: Yes, I think Telex was around at that time.

DH: Yeah. A lot of it went like that, yeah. Then once computers came it changed a lot. Yeah.

NP: Did people tend to move in and out of the lab?

DH: There was some movement all right, yeah. Some went to inspection, some went to other jobs, some people only were hired for summers. Yeah, there was a fair bit of movement. But, you know, as for the upper people? Not that much. Yeah.

NP: You mentioned the change from Telex—if it was Telex—to the computer. What other changes took place in the lab over the time that you were there?

DH: I don't know if we started with the infrared. I think it was about the time I left, they were doing kind of spectrophotometry. They got rid of the Kjeldahl banks and all that, and all the acid and all that. Changed a lot. Yeah.

NP: Was there a market for that leftover equipment? Did it get shipped anywhere? Or it was just sort of the test was too old and--?

DH: I don't know if--. I think everybody changed about the same time. I don't know if there was--. I think it got put into storage. I don't know where it went from there. They usually auction off that stuff. I really don't know where it went.

NP: And where was the lab? Was it always in the same place over your career?

DH: Yeah. Yeah. It was in the old post office building on Archibald next to the Gardens. We had the top floor. Post office was down on the bottom floor, and then eventually the RCMP moved into the bottom floor. When I was still there, though, I wasn't with the protein lab then.

**[0:15:10]**

NP: Where was it in relation to the entomology lab?

DH: Entomology lab was right beside it. Yeah. The protein lab was large. The entomology lab was small, fairly small. I think they only had--. When they started, they had two banks running half the width of the building sort of. Then about the time that I got into the entomology lab, we started expanding. And the protein lab didn't the Kjeldahl anymore, so they got smaller, and we got larger. So we ended up with part of the previous post office area.

NP: Any other changes in the protein lab over your time there?

DH: I think they started doing amber durum after, but I didn't follow it too much after I left. I was about four years, I think, in the protein lab.

NP: And then you moved to--?

DH: To the entomology lab. Then I became the grain sanitation officer.

NP: So tell me about the entomology lab.

DH: We were checking for insects in the grain—incoming grain, grain in storage, and outgoing grain. That's what we did in the lab. We were checking for insects. We also did reports of all the elevators. We did unannounced inspections on a routine basis, and we just continually went from one elevator to the next, and we did reports on them. We picked up samples of all the bins, and we did perimeter samples on the floors anywhere which we might find insects. We also checked for rodents, birds, to ensure that nothing extraneous got into the grain, being as how it was a food item.

NP: How prevalent were problems?

DH: Fairly. Fairly prevalent. The winters, because of the cold temperatures in Thunder Bay, they were less so than the spring, fall, and summer. And that was a good thing. It would kill off some of the insects in the perimeter areas. Sometimes they even tried, on a cold day, they'd run the grain and cool it off to try and kill the insects. You could not--. If we found insects in the grain, we would use phosphine pellets, and they were not effective in cool temperatures.

NP: What were common--?

DH: Insects?

NP: Yeah.

DH: The rusty grain beetle was probably the most common. The red flour beetle was probably the second most common.

NP: Did you ever find any unusual--?

**[0:19:31]**

DH: Yeah. Weevils weren't very common. We did find weevils from time to time, so that was always a big deal. They were more destructive than rusty grain beetles. The rusty grain beetle, what it would do is it would chew a hole in the germ part of the wheat so it would damage the kernel. So it would reduce the protein. Of course, it would be downgraded if you had chew holes in it and that sort of thing. The weevil would actually eat out the whole kernel, leave nothing but the shell. Weevils were more prevalent in the States, warmer temperatures, than they were in Canada. But sometimes there was cars that would be used in the States, so they could have been contaminated, and then they'd be used for the Canadian trade. So that would have been one of the reasons. Sometimes there was grain moving back and forth between the States. I think trucks and other reasons. So we ended up with a few weevils, so that was always a big deal.

NP: So describe the test then for--. Like if you were to--. How, first of all, would you sample at, say, a bin? And then just go through the process of what would happen to that sample.

DH: Okay. What we would do is we'd go to an elevator, and we'd have to lock out the belts.

NP: What does that mean to people who wouldn't know, like me? Locking out the belts?



DH: We'd have to go to the employees and get them to go to the main panel and put a lock. They'd have to turn the belt to "Off" and then put a lock on it, so that somebody couldn't come along and flip it on. There was usually one or two people that did that. So they would lock it, and then we were able to work on the belt. And what we did is we would go around, and one person—excuse me—would crank the handle open on the bin. So you'd crack it open a little bit, and we had a funnel kind of shaped flat pan. It had to be fairly flat to get underneath the dust hood, and so we'd slip that underneath. We'd run a shot, and then the grain would go into that, and then we'd stick it into a plastic bag, and we'd have tags. We put the bin number on it, put it inside the bag, and of course, we'd have the elevator on it and usually the belt as well. So belt, bin, and bin number. Some bins opened into a couple of belts. Then we would take about a two-pound sample. Bulk wise, our funnels would have been about eight inches across by about four or five inches deep with a lower lip on it. I think I'm digressing.

NP: That's okay!

DH: [Laughs] So going back to the--.

NP: So once you've taken the sample--.

DH: Yeah. So then we put them in bags, and we tied them up. Then we would finish off the belt, collect all the samples, put them into jute bags—fairly small ones so we could lift them because it was kind of heavy—and then we collected them. We usually got out there around 10:00, sometimes 9:30, and then you worked for about two hours, get your samples in, bring samples in, and then it'd be lunchtime. At the same time, once the bins were done, we also did the whole perimeter area. So we got samples from every floor. Usually, we looked for dirty spots or areas we thought might have insects, and then we check all that and did a report. I mean, some of the larger elevators, if you did two belts a day, you could be there for a week. Yeah.

**[0:25:11]**

NP: And approximately how often would an elevator be--?

DH: Checked?

NP: Checked.

DH: When I first started, there was something like 14 elevators, so we didn't get to them as often as when I finished. When I finished it was like seven, I believe. So you might have got around to them, provided--. Like, sometimes they closed too. Well, it didn't matter. If they were closed, we still had to check the grain. I think it was maybe three times a year to start, and in the end, we were doing like more than four.

NP: Would somebody from the elevator accompany you and take samples as well as a double check, or--?

DH: Not usually.

NP: Not usually.

DH: No. There was the odd time that we had to go back to redo a bin for one reason or another, but normally, we didn't have any of the elevator guys go with us. You get to know the elevators pretty good.

NP: Mmhm. I wanted to come back to that once we've sort of finished off the process here. When you tested the sample, then, or examined the sample back at the lab, how was that done?

DH: We set up the samples twice a day. So I'll take you through a normal day. When we started, we started at 7:30 in the morning, and we would take the previous night's samples down first thing. They were all sitting—the funnels—would be sitting on a jar partially filled with water, and there would be a screen holding up the grain, and the insects were small enough for the most part to fall through. There was the odd one that was too big, but the larvae would have gone through at least.

NP: What caused them to fall through? Why didn't they just stay with the grain?

DH: They were set up under lights, 60-watt lightbulbs, for at least six hours. And we had timers so that the lights didn't go on all night. Usually in the afternoon we'd shut them down because we'd come in 7:30, we'd take down the other ones, that would be half an hour.

JH: Don't eat them all, share them.

DH: I won't. [Laughs] About 8:00 we'd have them down. There'd be two of us reading the samples, and often two people setting up. That would take us to about 8:00, then we'd start reading.

NP: What do you mean by reading?

DH: Oh. We had to analyze every jar. We'd look under a magnified light to see if there was any insects in the jar. And then mites. We also registered mites if there was large numbers. So two of us would read the samples with the lights and we had microscopes too. Normally what we did, we'd screen them first, and if there was anything that we didn't know—if we couldn't identify them right off—we would set those jars aside, the positive ones, then we would look at them under the microscope and identify the insects. Then we would register the bin, and we would have to follow up on that. They would have to fumigate if it was a full bin. Sometimes the bins were empty, so then they would have to spray out the bin.

NP: An official notification order, or you would just call up and--?

**[0:29:48]**

DH: Well, initially, we called them up, but it would come out on a report. We would do a report in the end. All that would be on the report, and then we would do follow ups after the grain would be fumigated. They would normally send the grain into us. Getting back to our day, that would take possibly up to 9:00 to do the reading, identification, follow up, the paperwork, and so on. Phone calls. Then often I would stay behind, work on a report, or else I would go and do a follow up. I often did the follow ups on the report. We'd give them about two, three weeks to get everything done. If we didn't hear from them, we'd check with them, or just go back and see what was still deficient, and we expected them to have that done.

So getting back to the time, we'd mostly be out by 10:00. Between 9:30 and 10:00, you'd end up there. If I was doing the follow up, I'd have my initial report, and I'd go through all the different floors and see if the--. They'd have to clean them up plus spray them if there was insects. If there was rodents, you expect to see some kind of bait station there, or if it was bird droppings, they'd have to clean it up and so on. That would pretty much take us to lunch hour, and then we'd come back after lunch, and we would normally--. So they'd be up by 8:30< so four hours would be 12:30. 1:30 would be five. We'd generally take them down between 1:30 and quarter to 2:00 and do it all over again. Except in the afternoon, we would read them and then--.

We not only did, of course, the elevator samples, we did cars. The inspectors on the bench, if they came across a car that they didn't Like the look of the grain or if it had an odour or if they noticed insects, they'd send it into us. Also, we started a—and that was under my watch—where we did survey cars. We did random cars, so the inspectors from every elevator, we asked them to send us in six survey cars. So they would just take one randomly and send it into us. So we would do all these cars as well as the bin samples, plus any that they suspected. Also, occasionally we would go out and—especially when there was boxcars—we would go up into the boxcars. Sometimes the guys would do it. There would be the odd time when you couldn't get a belt, so then you'd

jump into a boxcar and take samples from it and mark the boxcar down. And then if we found that it was positive, we'd find out where that boxcar came from, and we'd follow up with getting back to the country elevator. Then they would have to send in samples. They were not allowed to ship until they'd send in samples to Winnipeg. Winnipeg would check those samples, and then if they had any grain that had to be fumigated, it would be fumigated. Then that particular bin they couldn't ship, and if the other bins were free, they could start shipping again. We also did boat samples. So we had to have a representative sample of every shipment going out, no matter what—wheat, oats, whatever, canola. It meant a lot of samples.

**[0:35:01]**

NP: One question that came up as a result of the earlier comment about the rusty grain beetle and the red flour beetles, would they have originated in the Prairies, or were some of these bugs--?

DH: Where'd they come from?

NP: Yeah. Are they really--.

DH: You know, I don't actually know where--.

NP: In the elevator?

DH: You mean did--?

NP: Like did they come in on--?

DH: Oh, you mean do they come from--? Yeah, most of them came from out west. How they got out there, I'm not sure. I don't know whether they came over with the Europeans when they--.

NP: Or they're native. I mean, we had our own native bugs! [Laughing]

DH: Yeah. I don't actually know where they originated, but yeah. A lot of the infested grain in the elevators here came from out west.

NP: Okay. Did the infestations go--. Were they sort of cyclical? Were some years better than others?

DH: Yeah.

NP: Or worse than others?

DH: Yeah, for sure. If you had a crop taken in wet in the fall, and they weren't properly dried, lots of times--. Driers were, I think, they weren't originally on most farms. A lot of the farms were small. A lot of the elevators were small, but as things progressed, as the farms got bigger, they started getting driers on the farms. Some of the farmers did their own drying. The country elevators got driers as well. So they could dry the crops, and that helped a lot. Also, we got them to turn the crops on the cold Prairie days. Minus 40, that would help. But still, lots of stuff would get binned, and if it was warm, that's all you needed. If there were some insects in there, maybe the bin didn't get cleaned properly beforehand. They would multiply quite rapidly.

NP: Did the problems occur in geographic areas?

DH: We had pins on a map in the entomology lab, and it was pretty widespread. Now, we didn't get all the grain sent to Thunder Bay, some went to Vancouver as well, and so we only marked the pins on what we were getting. I'm not sure if they did that or not, but it was interesting to note. But there would be certain country elevators that were perennial favourites for infestation.

NP: And what would you speculate, or did you know why that was the case? Was it a question of personnel, a question of facilities?

DH: I think it was a combination of a lot of things. Facilities? Some of those elevators were really old wooden structures—probably never could get all the insects out if they tried real hard—with cracks between the boards and everything. I think some of it was management. Some of it was certain companies were worse than others at times. I don't know if there was--. Possibly maybe even the southern ones that were further south might have been more prone, but we did have ones that we used to see every year. Take a break? **[Audio pauses]** Are we answering all your questions?

NP: Yes. We are getting there. Besides the elevator companies, were there any other organizations or people that you interacted with on a regular basis?

DH: Besides the elevator companies?

**[0:40:03]**

NP: Mmhmm.

DH: You mean Grain Commission personnel?

NP: Well, were there certain Grain Commission personnel? Did you interact with the railways at all, the shipping companies?

DH: Hm. Not so much shipping companies. The railroads, we interacted with them because if we found an infested boxcar, we had to instruct them to spray that car. So they'd have to pull it out of the system, and often the turnaround was so fast here that by the time we got a hold of them, the car was heading west. So they would get it sprayed. They used to spray with malathion. They'd have to get it done out west.

NP: Used to? Still do or still did by the time you retired?

DH: Mmhmm.

NP: Does it have sort of a shelf life, or it would go right back into service?

DH: Well, with malathion, it's a stinky kind of commodity and milky. I believe they washed them out after. So it wouldn't take all that long because malathion was a contact insecticide. So if it made contact with the insect, it would likely die. The trouble is, they would have to pull it into a siding, then it would have to be there, then they'd have to get somebody—a pesticide operator—to come and do it. Because I don't think the railroads had their own guys doing that. It actually might tie a car up for, who knows, as much as a week maybe or as little as maybe two days.

NP: What kind of comments would you make about when you find bugs and then chemicals were used to get rid of them, and we're dealing with a food product here. What comments do you have to make about that?

DH: Well, they were supposed to-- Phosphines ends up with-- It breaks down, and you get a residual that looks a bit like ash. They used to mix in the pellets throughout the whole bin so you wouldn't get too much in one place, but in actual fact, when that grain would be loaded into a ship, a lot of that stuff would dissipate. Especially if there was any kind of wind, it would certainly blow it away because it would be very light, just a lightweight ash.

NP: Did customers ever express a concern about--?

DH: Phosphine levels?

NP: Or even just the use of chemicals for--.

DH: Not that I know of. I wasn't really at that level. The buying, that would be the upper people would be doing that. I mean, you had to be careful. As I mentioned before, the temperature had to be greater than 5 degrees Celsius to fumigate, and sometimes we would get a sample sent into us that still smelled like phosphine gas. So if by mistake it got dumped into the funnel, we'd quickly take it off and put it into a bag, and it would have to be disposed of in a safe area, usually in the bin outside. Hm. I lost my train of thought there.

NP: We were talking about the safety, I guess, of the chemicals used to fumigate.

DH: Well, see, we did have a reader, a gas spectrophotometer, that we were able to check levels, and actually the elevator personnel had them as well. So they would go up and check a level. It was supposed to get to a certain point to be effective, so they should have checked to see if it was effective at that point and then if the level was low enough to allow the grain to be used again.

**[0:45:32]**

NP: You stayed with this particular aspect of the grain industry until you retired?

DH: Yeah. Yeah.

NP: Over that time, was the Canadian Grain Commission doing research related to your work? Was there ongoing training for you and other staff of the unit?

DH: We ended up—and I think all of us grain sanitation officers—ended up getting my pesticides license. I got a feeling everybody did. It was useful, you know, because you had the knowledge of your malathion and the phosphine, and that was really the two that we used the most. See, we also worked in conjunction with the Canadian Food Inspection Agency [CFIA]. They didn't have the manpower, though. They were actually, I think, they were doing it before we started in there. They were the only ones doing any kind of inspection, so when we started, we kind of shared it on an alternative basis. And because they didn't have that manpower, we ended up with the major portion of the inspections, and they pretty much did token inspections. They would do just maybe five percent or ten percent of the bins or something. So they'd run a few samples. They'd take some perimeter samples and that, but they left the bulk of it to us.

NP: Were they also largely responsible for the ships, especially the ships?

DH: Yeah. Yeah. That was their major--. They ended up with us doing the elevators, and they had to do inspections of the ships before they could load them. So they would do samples of that if they saw any of the grain there. And if they found insects, they would instruct the ship to get sprayed, which was a big task and costly. Yeah. We joined with them in some instances to see what they were doing so we'd have a knowledge of what was going on too.

NP: What would you describe as the main challenges of that job if any? Your job over the years.

DH: Well, I mean, our challenge was to ensure that the grain sanitation met export levels, which is insect and extraneous items. Anything extraneous shouldn't have been in the grain. We were checking for that. Canada had a good reputation for providing top quality grain, and nobody wanted to lose that position. We pretty much ensured that our grain was insect-free, whereas the American system was totally different. They had the weevils, which were, like I mentioned earlier, a worse insect destructively than the rusty grain beetle, which is our most common one. But what they did was if the buyer found insects, then they would knock a certain amount of money off so that they could fumigate it. Yeah.

**[0:50:08]**

I mean, the other challenges, I mean a lot changed over the years. When I first started, there was a lot of dust, the insects were fairly bad, the rodents were really bad. When I retired, it was almost like night and day. You used to have to wear a mask. Well, I did. I was allergic to the dust. Some people wouldn't, but it wouldn't have been good for your lungs anyways. Wear a mask because it was very dusty. But in that, the number of years I was doing that was about 27, and in that length of time, you could pretty much walk through the elevator without wearing a mask, many of the floors, and breathing was not a problem.

NP: What do you think made the change? We know with the dust it was the improving of the dust collection systems.

DH: Dust collection, absolutely. Yeah, the elevators were pretty much forced to come up with a better dust collection system, and costly as it may have been, it improved things a lot. Insurance was another incentive because over the years there were elevator explosions. I only remember one when I was on the job. It wasn't that major. The major ones were before I started.

NP: Which one was that, do you recall?



DH: Pool 4. Pool 4 was a real bad one.

NP: But while you were--?

DH: Oh, Pool 15.

NP: Which is--?

DH: Was it Pool 15. Pool 15 or was it Cargill? My memory fails me.

NP: Was 15 Searle?

DH: Cargill too. It might have been both of them. They both maybe had a problem. I think they did, yeah. I think Cargill did too.

NP: Do you remember what happened?

DH: Not--. I think what often happens is if you get an infested area with wet grain, it'll heat, and you can get spontaneous combustion from that.

NP: So heated--.

DH: I don't know, but dust particles too. Any kind of ignition on dust particles would be very explosive. I don't know if I ever found out the causes of those exactly, but I know--. I'm pretty sure when we were at that one elevator that here was still, in a couple of bins, there was charred grain. Yeah. I don't know if those bins ever got put back into use.

NP: Hm! Yeah, I think I'd heard about that explosion. I think I'll have to track it down.

DH: They weren't major.

NP: No, the 1945 and '52 were the major ones.

DH: Yeah. Yeah. They never were as bad after that, thank goodness.

NP: Um--.

DH: Now, I mean, are we still--? Oh. Who else were we working with? Yeah, I think that's pretty much it. We had one person in Winnipeg that was over our grain sanitation officers, and he would come down periodically, and we would all get together once a year for conferences and compare notes and see what was new.

NP: Do you remember that person's name?

DH: When I started it was John Van Loon.

NP: I've heard that name.

DH: Yeah. Yeah, but he was there for a long time. You know what? I'm very poor on names, and I forget the last guy.

NP: Who took over for him.

**[0:55:01]**

DH: Yeah. He was--. I think somebody else took over for a short while, and there was people filling in as well. It'll come to me, I think.

NP: What was the name of that position, do you know? Chief entomologist or something like that?

DH: Yeah. Yeah.

NP: What did you like most about the job?

DH: You know, we were busy all the time, and the time went by fast. Your days flew by. We had a routine set up, and you come in at 7:30. We would leave at the end of the day, and the days just flew by. Yeah, the time just flew by, which is a good thing and a bad thing, I guess. Next thing you know, you're retiring. [Laughing]

NP: Yes!

DH: When you look back on it, you go like, “Holy mackerel! Did that ever go by fast!”

NP: Yeah. Did you ever think about your connection with the farmer?

DH: Oh, yeah. Yeah. We thought about the farmer a lot. In fact, had to go--. Various ones of us would go out, and they'd have farmers meetings in the winter when it was slower, and we'd take along a slide presentation. We would show them the various insects that we came across and what to do to prevent infestations. We tried to educate them as well as we could. There would be grain elevator personnel there as well. Yeah. We did a lot on education. I think it worked too.

NP: So where would you have done these presentations then?

DH: Out west. Saskatchewan.

NP: Just small communities?

DH: Yeah. Yeah. Somebody would plan where these various meetings would be, and I'd go for a week or so. There'd be different ones of us that would do that. Yeah.

NP: Can you--. It sounds like a pretty steady job, important, but not necessarily exciting. But as you think back, what are your most vivid memories about your career?

DH: The most vivid memories?

NP: Mmhmm.

DH: I don't know. It was pretty much routine. You know, one elevator to the next to the next. I don't know. I can't think of anything that stands--.

NP: Never any incidents? Things went along pretty calmly?

DH: Well, the people working for me and even myself, you'd end up with certain injuries. Lots of hand injuries, scrapes, cuts, that sort of thing because you were always leaning on those levers. Sometimes they were hard to go, and you'd have to bang on them to get them open. They were rusty. Some of them were like, I don't know, decades old. I don't recall any major injuries.

NP: You didn't fall into any bins or nothing--. You had a good, safe job?

DH: No. I didn't. Some people did, but not I. We'd have to instruct them. I mean, I don't think the personnel really liked the fact that they would have to go into a bin and clean it because they'd have to be lowered down. There'd be all kinds of safety precautions. They'd be lowered down. They had some kind of thing that would work on a lever, and they'd have to do the sides. That wouldn't have been a great job. I don't think we were the most liked people, you know, because we meant work for them. And there were times when we had to close the elevators down. We had to do it in conjunction with CFIA. There was some instances, like I remember Grain Growers A. Who was the superintendent? I think it was Cousineau. It was probably a Friday that we closed them down, and of course, they can't ship. They can't receive, they can't ship. So I remember him calling us up on I think it was the Monday morning, "Okay. Come do an inspection. Everything's done."

**[1:00:54]**

So we'd get over there as soon as we could, and both myself and the CFIA would go, Bill Hunt. We'd go there and check the various things that needed doing., and usually they were done. That was usually when you get a lot of action, when you close them down. So there was always the threat of that, so if they didn't pay attention to your reports, you could shut them down, and they knew it. Although, we chose not to do it in most cases. I don't--. I think over the years, I don't know if we shut down elevators anymore than a half dozen times. But they knew the threat was there, so that worked pretty good.

NP: A related question to sort of vivid memories is have you already talked about the most significant events? Were there any--. You have talked about some changes that occurred, but were there any blips in this pretty calm--?

DH: Well, when I think about it--. I think probably the most dangerous things that we did and probably it wouldn't have been allowed—you know, if the powers that be knew what we were doing—was taking samples from those empty cars when we first started doing that. It was us that instigated that, and it became--. They ended up doing that sort of thing right across the country. But going in there and grabbing that sample, because you never knew when the engine would come along and back into the cars and start pulling them out. There was no kind of warning. You just had to keep your wits about you. I think there was some close calls in that, you know? Because instead of going around, we went underneath. [Laughs] Quite dangerous. Yeah. But I'm trying to think. I mean, I remember going up on top of the tank cars too. But I'm trying to think why we did that.

Out of the Grain Commission, I worked for a pest control operator, and we fumigated some of the cars. In fact, the elevators ended up they had their own guys with pesticide licenses, but eventually, I don't know, I think they considered it too hazardous, and they didn't want to get their license and various reasons. So they pretty much contracted it out.

NP: Left it to the specialists?

DH: Yeah.

NP: Not a bad thing.

DH: Yeah. It was more costly for the elevators, but the onus would be on them to do a proper job. We had to check for that because they'd have to seal the top of the bin after it was fumigated, put plastic over it, tape it, label it properly, as well as the bottom so it couldn't be opened. So I did some of that on the off hours, helping the pest control operator, and we did some cars, infested grain coming from infested stations. I did have an episode there.

**[1:05:31]**

These pellets, they came in aluminum vials. I think they held 1,000. When you did a boxcar or a tank car—we were mostly doing boxcars—what you did was you opened up the car, you put cardboard down, then you took the container--. And we had it figured out how many pellets it would need. Then you spread the pellets up on top, and it was supposed to take like five minutes or ten minutes before they started breaking down, but it was never like that. They always seemed to start breaking down. If you did it in kind of wet weather, it would be worse. So I was helping him do some, and that was over by, I think, it was by Ogilvie that we were doing those. After I got off and finished putting them up there, I felt like I was going to die. [Laughs] I told him, I said, "You'd better call the ambulance." I felt really odd, like spaced out, you know, like I was going to pass out. But after I got into the air for a while, it was okay.

NP: And you're still with us!

DH: Yeah! [Laughing] Yeah. I think those fumes were not good. That's what they used in the gas chambers. That's what they used, those pellets. Phosphine gas. Very lethal stuff.

NP: You mentioned earlier about rodents, and I didn't come back to it, but I thought of it because you said rodents used to be really bad, but by the time you left the rodent situation was improved. What happened in the interim?

DH: Well, you know what? When I first started, there'd be four to six inches of dust on the floor, and you'd come across rats. They didn't stand there looking at you too much, but you'd see them down the belt. We also surveyed the outside of the elevators because

many of them had tunnels outside, and then they'd go inside and go back to their tunnels outside. So we had some fumigation done. We threw pellets down into the hole and then they'd block them off so they couldn't get out.

NP: Same kind of pellets?

DH: Yeah.

NP: Multipurpose pellets, bugs and rats.

DH: Yeah. Well, that stuff would kill anything. So worked with them on rats too. Yeah, they'd start breaking down as soon as they got thrown in there, as long as they didn't have two or three exits. We never knew whether they did or not. We'd try to block off all exits. I remember one, there used to be, across from Pool 3, there used to be a dump there where old grain that got wet or heated or was no good, they'd dump it over there. You could sit there and just watch the rats crawling around. That was bad. Pool 4 was bad because they had banks there, and they'd burrow into the banks.

**[1:09:56]**

I do remember one thing. I was walking around. We knew a couple of guys that worked at Pool 3, and one time I was doing an inspection there, and I'd come across one of the guys that I knew. He was a pretty big guy, pretty strong. I wasn't all that big. Anyways, he grabbed me, and he made like he was going to throw me out the window. [Laughing] He carried me and--. Yeah. I didn't think he was going to do it, but I was a little--.

NP: And why would he have done that, do you think?

DH: He was just joking around. We used to go camping with them, so we knew them pretty good.

NP: There seemed to be a few people like that who liked to grab people and threaten them. Sometimes not in an amusing fashion.

DH: That was the only--. [Laughs] The only time it happened to me. Yeah. You know, I don't know whether that had anything to do with it, but I kind of developed a little bit of a fear for heights after. [Laughing]

NP: Yes, I--.

DH: Like sometimes, some of those elevators--. Which one was it? I think it was Pool 4, actually, 4B, you had to climb the ladder from one floor to another to get up to a certain area. So you had to climb a ladder, and you're already up on the bin floor. I think it had a separate section that we had to go in. Yeah, I think it was 4B. So that wasn't that great because, jeez, you have your light and everything else, and you have to go up there. Yeah. I guess when you think about it, there's various things that happened over the years. Didn't all come to mind. Lots of things you'd like to forget. [Laughing] And you did! Yeah.

NP: So we talk about the various elevators. You mentioned Pool 4. Well not so much Pool 3, other than the dump of old grain across the street for it. [Laughs] Did you have favourite elevators that you didn't mind going to because you knew it was going to be a quality operation? Were there some elevators that were so old that no matter how well somebody tried to--?

DH: No, you know, it didn't really matter how old they were. But there were some superintendents that were belligerent, and you would know that they're going to give you a tough time, and they may not do the report to your satisfaction. They would crab and complain and so on. There was some guys you got along better with than others, but they changed a lot over the years. Like in 27 years that I was doing that, it was quite a change. I would say it was mostly for the better. Yeah.

NP: More cooperative?

DH: Yeah. Yeah. I don't think there was anybody that ever said that they wouldn't cooperate because they knew they couldn't, but I don't think--. You know, when you close down an elevator, I don't think you're all that well liked for a while. It means having guys in on overtime and everything else.

NP: Did you find that different companies operated differently? Did some companies have more of a, "This is part of quality, and therefore we do it," and others that just sort of say, "This is my business, and you shouldn't be involved anyway"?

DH: Yeah. It became that way. There were certain companies that, yeah, that you would have better results from. They wanted to cooperate because it was to their benefit too. The other ones would drag their feet, who knows for what reason. Manpower or--.

JH: Tea or coffee?

**[Audio pauses]**

NP: In my mind, better than a warm cookie.

DH: [Laughs] Jill?

JH: What?

**[Audio pauses]**

**[1:15:04]**

NP: Okay.

DH: I don't know if I mentioned how many samples. I was trying to think of the exact number, but I think we ended up--. We did close to 300 samples a day when we finally--. We kept enlarging our capacity, put in more and more. So I think it was pretty close to 288. I can't remember the exact number, but it was pretty darn close to that. So that was a lot of samples that we could run through.

NP: And how many staff were there when you left?

DH: We usually had--. There was myself, an assistant, and two or three other workers. It was better if we had--. What worked out ideally would have been myself, the assistant, and five others or four other. Five others. No. We needed two on a belt. You need two people on a belt, so four people out. So at least five.

NP: Did you keep track of what happened after you left? Did they continue doing the--?

DH: They did. It was pretty much my assistant took over from me, Patty Roy. It was pretty much status quo until just recently. I actually don't know. They've got somebody in there, I guess, that's Just doing samples, and a lot of it's going to Montreal from what I understand. The assistant, she's gone. I think they've just got a couple of people in there.

NP: So they wouldn't be doing the elevator inspections then any longer?

DH: I don't think so. I think, you know, it's come full circle in that length of time, what, 35 years? No, longer than that. I've been retired ten, so let's see. 31, 40, 40 years, it seems to have gone full circle. And I don't know if the onus is back on CFIA. I don't think so. They don't have the manpower. They're cutting back on them as well. So I don't know where that's going to end up. The inspection, the grading—everything's changed immensely. Pity! I think it was a pretty good system.



NP: Which sort of leads me to a couple of last questions. From what I've learned about Canada's international grain trade over the many years of this project, it's a pretty sophisticated system that developed over a period of time. And a lot of the people, obviously, that I've interviewed have been biased, but they considered Canada's grain handling and inspection quality to be the premier system in the world.

DH: I think so. Yeah. And we had a climate that helped us a lot too. Say in our department, Australia, they had a pretty good system, but they had every insect known to man there, and they didn't have the benefit of cold winters, you know, because that helped us a lot. I mean, we did have insects, but nothing like a place like that. Or even the States.

NP: So global warming could have some impact in the long term?

DH: Not if it was like last winter. [Laughing]

NP: That's why we changed it to climate change instead of--.

DH: Climate change, yeah. Forget global warming. The worst winter in 100 years.

**[1:20:01]**

NP: Did you ever get a sense that you and your position, that you were contributing to Canada's success as a respected international grain trader?

DH: Yeah. I felt, yeah, I felt we did a lot. I think we cut down on the insect population a lot in the number of years I was there. I mean, it started before me, of course, but yeah, I think it made a big difference. Yeah.

NP: Kept things under control.

DH: Absolutely. And I think our reputation was pretty good in those days. I'm not sure what it's like now or where it's going. We'll find out, I guess. [Laughs]

NP: Maybe not during our lifetime.

DH: I hear a lot of the service we were doing have been contracted out. Yeah.

NP: Yeah. We are hoping to get some type of grain industry centre established in Thunder Bay, and if that were to happen, what part of the entomology system do you think would be important to feature?

DH: I think you'd want to set up probably a dummy--. With the lights and the funnels and the jar underneath, and probably with--. Actually, we had a beautiful chart that showed a lot of the different insects. Something like that. Would put that one out. Degesch, one of the makers of phosphine, they had a great one, which we had. In fact, it might even be still around. It used to be on our wall, there forever in the office if somebody hasn't tossed it. But who knows when those things get smaller. It might still be there. I don't know if they've left the office or if they've still got the same facilities or what. If they've gone so much smaller and are doing that much less, they might have even moved the area.

NP: I've often thought it might be nice to have a bug zoo.

DH: It would be. Those guys are not exactly keen on being shown off though. You know, like weevils, they could be entirely inside the kernel. If you waited long enough, they might come out, but you may not have the patience. Yeah, I don't think it would be the same as an ant zoo. [Laughing]

NP: Did ants ever infest grain?

DH: We never had a concern with ants. They like sweet things. I don't ever remember having an ant problem ever. Now, mind you, they would get killed off incidentally because many times if we found insects on a floor in different areas and we'd have to spray the whole floor with malathion, that would kill any insects that would come in contact, probably including ants, even though they're pretty tough.

NP: Yeah. They usually go home, too, don't they?

DH: Yeah.

NP: They come in and go home.

DH: Yeah. Yeah, they do tend to. [Laughing] They may not even go near the malathion unless they got sprayed directly or something. But they've got a pretty tough shell on them.

NP: So any questions I should have asked you that I haven't asked?

DH: I can't think of any, but you know, you always think of stuff after that You should have said maybe. I can't think of any.

NP: Well, thank you very much. We finally got the interview done. I'm very pleased that you were able to fit me in so shortly after getting back, and I'll let you go now and check on the chemistry of your pool! [Laughing]

DH: I'll let you--. You can come and help me plant flowers tomorrow night.

NP: Yeah! [Laughing]

**End of interview**