

June 24 & 28, 1912

WESTERN WHITE PINE SEED¹
COLLECTION,
FALL OF 1911.
DISTRICT I.

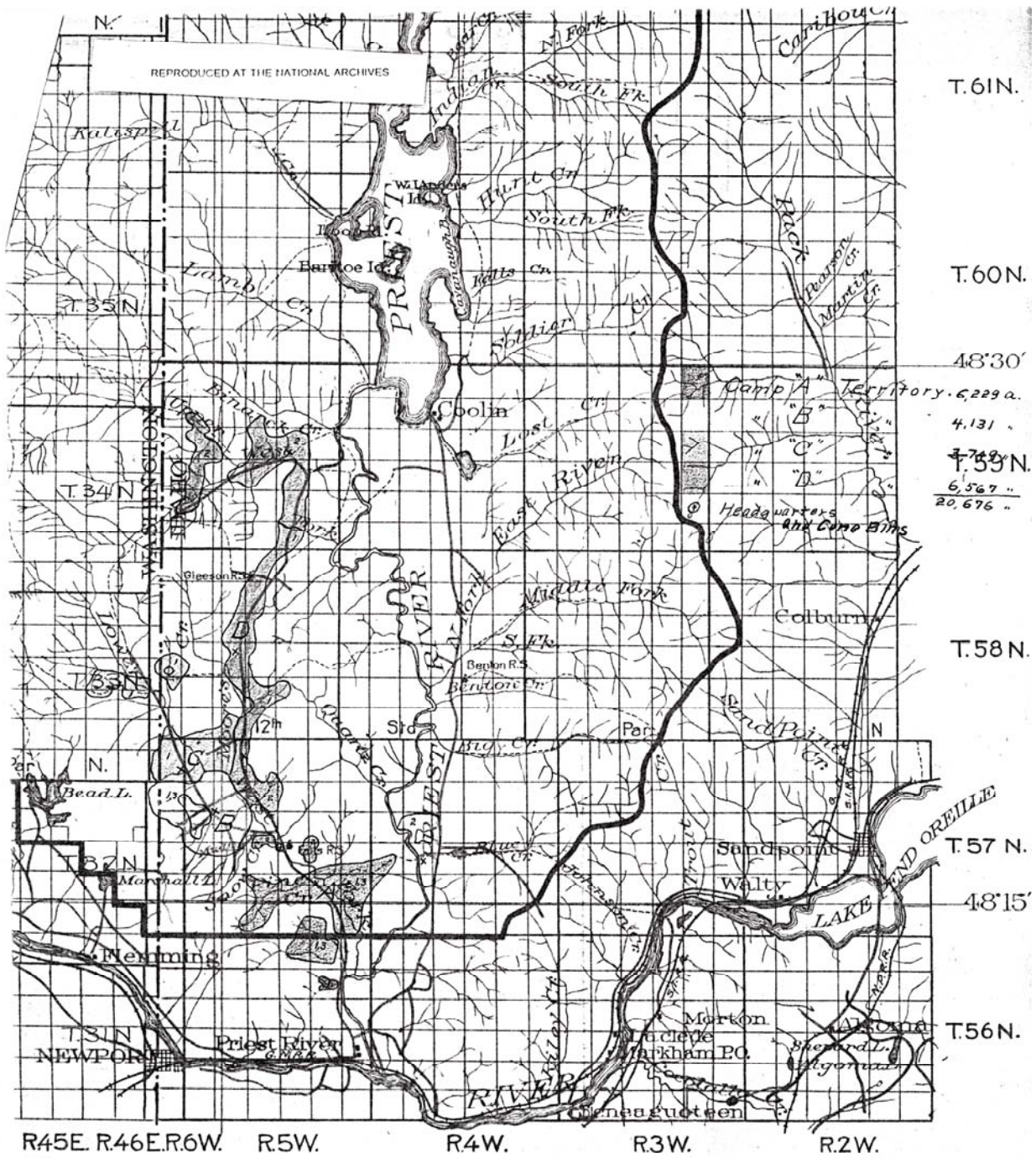
BY

HENRY H. FARQUHAR

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FOREST SERVICE U.S. DEPT. OF AGRICULTURE
1911
KANIKSU NATIONAL FOREST
IDAHO AND WASHINGTON

BOISE MER.
Compiled and traced
by C.F. Farmer Dec. 11
*White Pine
Seed Collection 1911.*

WESTERN WHITE PINE SEED COLLECTION, FALL OF 1911.

DISTRICT I.

I. Introduction.

1. Reconnaissance.

With a view of securing 20,000 bushels of western white pine cones during the fall of 1911, in August of that year a reconnaissance of the Lolo, Coeur d'Alene, St. Joe, Kaniksu, Pend Oreille and Cabinet National Forests was made to determine the best place and methods of collection, keeping in mind the desirability of concentrating the collection on one Forest if possible. The Kaniksu National Forest was selected for the entire job.

2. Advantages of Forest and Site Selected.

In comparison with the other Forests visited, with their steep and bushy slopes, relatively small continuous areas, poor roads, and distance from railroad points and sources of labor, the Kaniksu offered many advantages.

Within the Forest the region in the vicinity of the West Branch of Priest River was chosen as the most favorable locality of any of those visited. Several factors had to be taken into consideration in the selection of an area suitable for extensive seed collection operations, and by far the best combination of these factors was found in this particular region on the Kaniksu. Those factors which were of most importance and for which the West Branch region was especially favorable, were: (a) abundance of seed of the desired species; (b) large contiguous bodies of the desired species; (c) topography; (d) presence of roads and trails; (e) ranchers; (f) nearness to source of supplies; (g) supply of labor.

(a) Abundance of Seed

The white pine of this region had last year an exceptionally large crop of cones, and what is more, the region of cone production was not confined to the lower levels of the valleys and to trees surrounding the park areas, but extended about equally well up the long gentle slopes characteristic of that region, even to the tops of the divide.

Another favorable consideration was the correspondingly poor seed crop of the associated species; viz., Douglas fir, tamarack, western red cedar, hemlock and white fir. As a result, the squirrels, which had already begun to cut the cones at the time of examination, had to confine their operation largely to gathering white pine cones. This not only resulted in a larger amount of this species being cached, but also in the lack of an appreciable intermixture of the cones of other and inferior species.

(b) Large Bodies of the Desired Species.

As in all other operations in connection with timber, large continuous bodies of the species in question are desirable in order that the cost of operation may be kept as low as possible. With large areas the cost of transportation, supervision and camp equipment is reduced to a minimum, as opposed to many smaller areas which necessitate constant moving or else more camps, more foremen, more cooks and equipment.

Both slopes of this valley were covered with a solid body of white pine timber, with the exception of local burned and logged areas and small parks. The latter proved very useful as a place for depositing the filled sacks to be taken up by the haulers later.

Although this Forest was primarily a white pine forest, other species were mixed in varying amounts. Next to a pure white pine stand the most favorable conditions from the standpoint of the collector were found in the white pine-larch mixture, since here there is much less reproduction and fallen timber to interfere with scouting through the timber for caches. The more general mixture, however, was that of white pine, Douglas fir, cedar and white fir. This association of species, making as it does a dense crown cover, does not in general allow of a heavy stand of reproduction, which again favors the collector. Here, however, is met the disadvantage of having too many fallen logs (since cedar especially is badly affected with "butt rot") which results in smaller and more widely spread-out caches as well as greater difficulty in getting through the timber, especially when carrying the sacks. The caches are normally made along the side of fallen logs, and the more down logs that are present in a given locality, the more will the cones be spread out and therefore harder to collect.

In the immediate creek bottoms and other moist places where the hemlock comes in as an important tree, the reproduction would often be too dense to allow of profitable picking were it not for the fact that the squirrels have a tendency to choose just such damp places for the location of their choice caches.

(c) Topography

The topography of the West Branch region as well as that lying to the north of the upper West Branch road, which was also picked over extensively, was especially favorable for seed collection. The main ridges each side of the broad valleys of the rivers and creeks have a general north and south direction. Although the ridges rise several hundred feet above the valley floor, the slope is generally quite gradual. These ridges are frequently cut by ravines which not only contained a large supply of cones but also provided an easy means of placing the cones on the meadows, trails or wagon roads, since game trails at least frequently go up these ravines. At the foot of some of the principal cone-providing slopes were several meadows belonging to the ranchers of that region. Since these meadows were all connected by wagon roads to the main traveled roads they proved to be a great aid, both to the pickers and to the haulers, in transporting the cones.

Several Forest Service and other trails were already located in favorable positions for cone collection, and in general the topography was such that temporary trails could be cut at relatively small expense to further aid in the collection. These trails served both to aid the pickers to move easily, get back into the interior and thus cover larger territory, and also as a line of deposit where the filled sacks could be left to be carried out by the pack train.



GENERAL CHARACTER OF TIMBER IN WHICH COLLECTING WAS DONE

(d) Roads.

The roads in this locality were very good for mountain roads, especially when dry, as was the case this fall. The main West Branch road follows up the valley, thus passing through the center of the picking area. At the Falls Ranger Station, where the cones were stored, a branch road known as the "Upper West Branch Road" breaks off in a northerly direction, and this also was used as a base line for collection in the upper districts.

In addition to the main roads there are logging roads, roads to mines and to the many ranches of the region. In all, this area was traversed by roads and trails far better than the average densely forested region.

(e) Ranchers.

There were nineteen ranchers and two Ranger Stations in the near vicinity of the chosen seed collecting area. These ranchers later proved to be an invaluable source of supply both of labor and of provisions. The ranchers furnished laborers who were the steadiest element on the job, men who were naturally at home in the hills, and furthermore who were in territory which they know thoroughly. But this was not the best service that they gave, since at the start it was found necessary to keep an entire camp at the ranch houses for a short period awaiting the arrival of tents, etc. Then, too, all the hay and most of the vegetables and uncured meat used throughout the season were delivered at the camps or at headquarters at a reasonable cost by these ranchers.

(f) Nearness to Railroad

Still another factor which favored this location was its comparative nearness to a railroad. The town of Priest River, which is on the Great Northern Railroad running east from Spokane, was but seven miles from the first camp to be established, and nine and a half miles from headquarters. The wagon road was such that a two-horse could make a round trip to Priest River in a day, and haul a fair load one way. By means of a temporary connection to the Forest Service telephone line, headquarters could at any time be in communication with Priest River and its telephone circuit.

(g) Labor Supply.

Since the ranchers could furnish only a small part of the labor necessary for the completion of the collection before winter closed in, it became necessary to look into the matter of outside labor. At this time the various logging camps in the vicinity had not opened up for the winter, and another valuable supply of men, also familiar with the woods, was found in the ranks of the lumber-jack. These men were only too glad to have a month's work at this time, even if it was a kind of work they had never done, that they had never even heard of, and furthermore did not even believe in.

Priest River, Newport, Spokane and Sandpoint were among the chief sources of labor supply. Two of the seed camps were but eleven miles by trail from Newport, and Spokane and Sandpoint are connected with Priest River by railway.

3. Allotment Plans, etc.

After definitely selecting the site, and after receiving plans from the various Forests, the work for the District as a whole for the fiscal year was lined up. In order to approach as closely as possible to the Forester's planting schedule for District I, in addition to the allotment under the special Planting Schedule it was found necessary to draw in \$15,000 General Expense money from the Forests. As an estimate of the amount needed for this seed connecting project, \$10,000 General Expense money and \$5,000 Schedule 167 money, total \$15,000, was allotted. This later reduced to \$14,464.18, to assist in providing funds for insect eradication on the Flathead Forest.

II. Organization.

As prefatory to the following, several things should be pointed out. The bare fact that we would attempt to collect 20,000 bushels of cones on the Kaniksu was not fully determined, and the allotment for this and for other projects in the District was not finally settled, until September 10. Collecting had to start not later than September 15. Aside from the valuable assistance of the officers of the Kaniksu for two or three days in setting up the first two camps for us, there were

no permanent Forest officers, aside from members of the District office, available for the work. There was no equipment on hand, aside from that furnished by the Kaniksu. There was a lamentable lack of reliable data on which to base operations of this size. And finally, judging by the average season in the vicinity, we figured that the job must be completed by October 15 – before the fall rains set in. As it happened we were favored with excellent weather, losing only two days on account of rain – until late in November.

1. Headquarters, Supervision.

Headquarters were established in a tent near the Falls Ranger Station. The point selected was near the center of most of the area on which collecting was done, and was convenient in regard to roads, telephone connections and nearness to the extracting plant.

A telephone was installed here, connected by emergency wire to the main Kaniksu line which ran just the other side of the road. A clerk was hired to look after the time and other office records, and also to have charge of the commissary and food supplies. The writer was in direct charge of the work, assisted by Forest Assistant H.A. Green.

With a crew of this size and of this character of labor, it was of course absolutely necessary that arrangements be made whereby the men could not only be paid cash on the ground, but also whereby a commissary account with them could be run.

To do this, arrangements were made with the District Fiscal Agent whereby I acted as his deputy in the disbursement of funds. An agreement was made with the Citizens State Bank of Priest River, Idaho, to the effect that I might draw checks on that bank to the amount needed in paying off the laborers, this constituting an overdraft on the bank on my part to be made good by the District Fiscal Agent.

The commissary account was a personal one between the merchant and myself. Each foreman in turn was held responsible for that which was allotted to this camp, and he would enter on the back of the time-slip the various purchases made by each individual. When the time-slip was brought to headquarters for payment, the amount of his commissary purchases was deducted from the total amount due him in wages, he signing a cash receipt for the total amount due him in wages before this deduction was made. This cash receipt being submitted with the payroll, for an amount, for instance, of \$50 when actually the man had received \$40 (the balance being his \$10 commissary bill), when paid by the Fiscal Agent to the bank automatically left a balance in the bank to my credit, which was later withdrawn to pay the merchant.

2. The Picking Camps.

Four collecting camps called A, B, C and D, were established in the most favorable locations so that each could pick for a radius of two miles from camp. Each camp consisted of one Foreman, one cook, one cookee, from twenty to twenty-five pickers, and one or more haulers and packers from time to time. Each camp was connected by telephone to headquarters

The location of, and area covered by each camp is shown on the map. The numbers indicate the order in which the ground was picked over; thus Camp A areas, the "1" and "3" indicate that Camp A was here first (the second area will be found to the north) and that it came back to the same territory to pick again.

3. Organization at the Camps.

Each camp was in direct charge of a Foreman, and particular emphasis was placed on securing good men for this job. He was charged with all commissary and other supplies, was given a free hand in the hiring and dismissing of labor, and held directly responsible for the work at this

camp. The foreman selected were as follows; Camp A: - J.C. DeCamp, Forest Assistant on furlough from District 2; Camp B: - Ed. Fogelsong, formerly on the Kaniksu; Camp C: - J.J. Murray, formerly on the Kaniksu; Camp D: - C. A. Green, formerly Forest Guard on the Pend Oreille. Without exception those men all did excellent work. While none of them had ever done any seed collecting, they all entered fully into the spirit of the job, all showed a capacity for handling the difficult labor with which they had to deal, and all contributed very largely to the success of the work.

The first camp established was called "Camp A", the second "Camp B", etc. The first man hired at Camp A was called "A1", the second "A 2", the third "A3", and so on up, and similarly for the other camps. If "A10" quit, this number was not used again, but when another man was hired he would be given the number following that given the last man hired. When he quit, Camp A Foreman would put his time-slip in a sealed envelope, and "A10" would bring it to headquarters for his pay. If "A10" transferred to Camp C, the Foreman of Camp A sent his time to headquarters where it would be filed until the man came for his time when he finally quit work.

A special time sheet was prepared, as shown by the "Record of Pick" form. If, instead of picking cones, the man was working on the road, "Road Work" was entered opposite the proper date, and similarly for other kinds of work. The hours worked and the number of meals furnished him were entered in all cases.

RECORD OF PICK

Name _____

Address _____

Camp: _____
(A, B, C, D)

No. _____

Sept.	Work	Meals	No. of Tags	No. Sax	Sax in	Oct.	Work	Meals	No. of tags	No. Sax	Sax in
11			to			21			to		
12			to			22			to		
13			to			23			to		
14			to			24			to		
15			to			25			to		
16			to			26			to		
17			to			27			to		
18			to			28			to		
19			to			29			to		
20			to			30			to		
21			to			31			to		
22			to			Total			to		
23			to			Nov. 1			to		
24			to			2			to		
25			to			3			to		
26			to			4			to		
27			to			5			to		
28			to			6			to		
29			to			7			to		
30			to			8			to		
Total			to			9			to		
1			to			10			to		
2			to			11			to		
3			to			12			to		
4			to			13			to		
5			to			14			to		
6			to			15			to		
7			to			16			to		
8			to			17			to		
9			to			18			to		
10			to			19			to		
11			to			20			to		
12			to			21			to		
13			to			22			to		
14			to			23			to		
15			to			24			to		
16			to			25			to		
17			to			26			to		
18			to			27			to		
19			to			28			to		
20			to			29			to		

*Tally only full sacks.

Signature _____

After a few trials, no attempt was made to allot a definite picking area to any particular man or group of men. At first thought, some such scheme would appear to be necessary in order to avoid lost motion in reworking the same territory, but in practice the men did not like it, would not adhere to it and, as indicated by their average, did not need it.

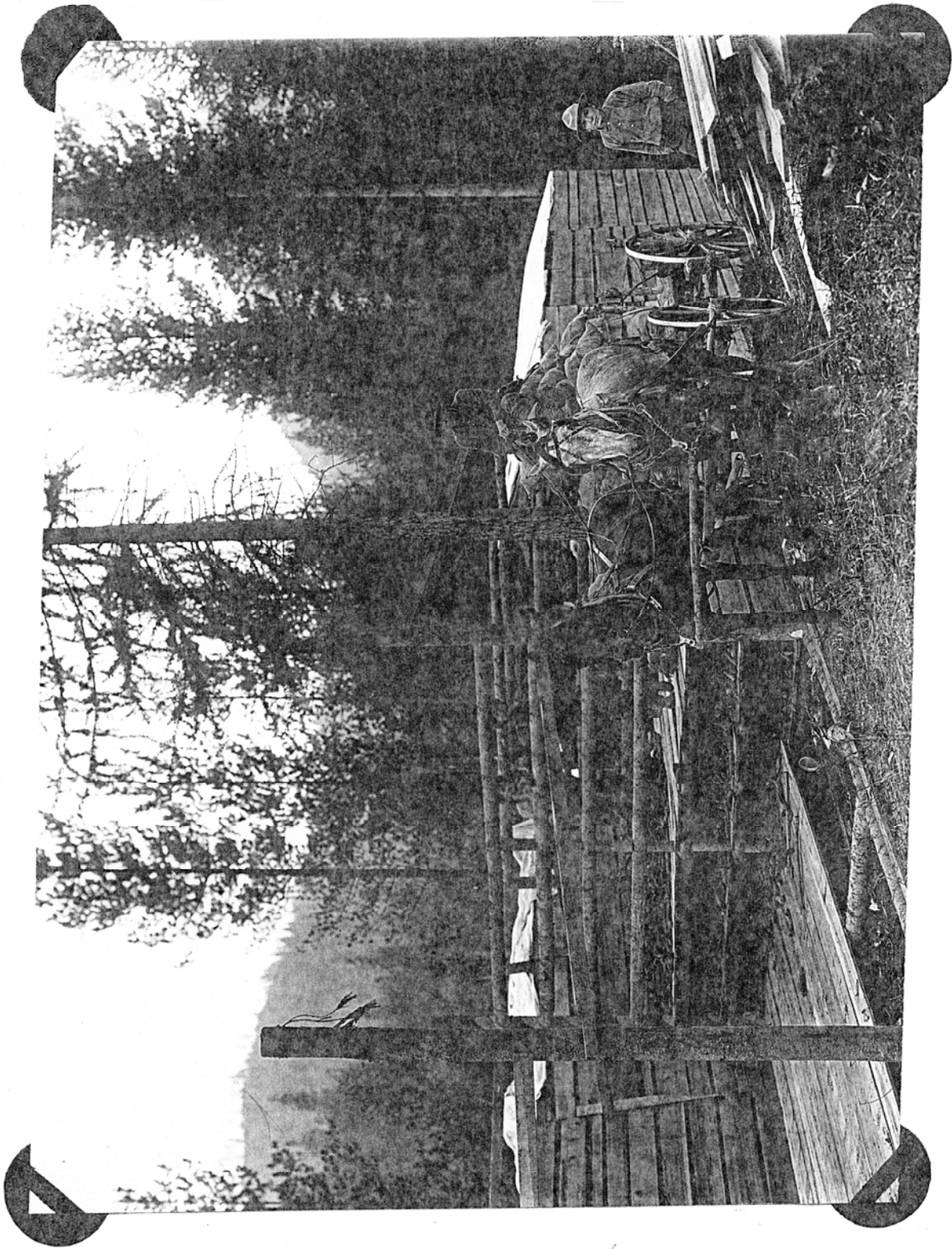
4. Numbering Sacks

Each morning each man was given from eight to ten two-bushel gunny sacks, and charged with the number he received. He was also supplied with shipping tags. The men were required to fill, tie, tag and deliver each sack alongside of wagon roads, or, when the pack train was at their camp at the time, alongside of an open trail. When man number "A1" filled his first sack, he would tie and tag it, marking "A1" on the tag. The next he would label "A1-2", etc., continuing consecutively as long as he was "A1". If he transferred, and became "B3", he would begin numbering his sacks B3-1, B3-2, B3-3, etc. At night each man reported to his Foreman, and the foreman entered on his time slip, the number of sacks he had picked that day. This was checked against the number of empty sacks he took out, and if any sacks remained he turned them in or was charged with them.

5. Hauling

Five two-horse and two four-horse teams and drivers were hired from the local ranchers for hauling, at the rate of \$85 per month for the two-horse, and \$140 for the four-horse team, the Service furnishing board, feed and shoes. The wagons were fitted up with racks so that over one hundred sacks could be piled on – the condition of the roads, however, did not allow the hauling of this number at one trip in most cases. Besides these, the Kaniksu furnished a pack train of seven horses, we paying the two packers. These teams and packhorses were shifted from camp to camp as necessity arose.

At the "Cone Bins", where the cones were stored preparatory to extracting, a boy was stationed with a notebook for each camp containing blank "Haulers Reports", numbered A1, A2, etc. consecutively for each camp. When a wagonload of cones was brought in, the hauler would throw them off, calling "C1-36", "C16-48", etc. as he threw off the sacks so that the numbers could be recorded.



A partially unloaded wagon load of cones.



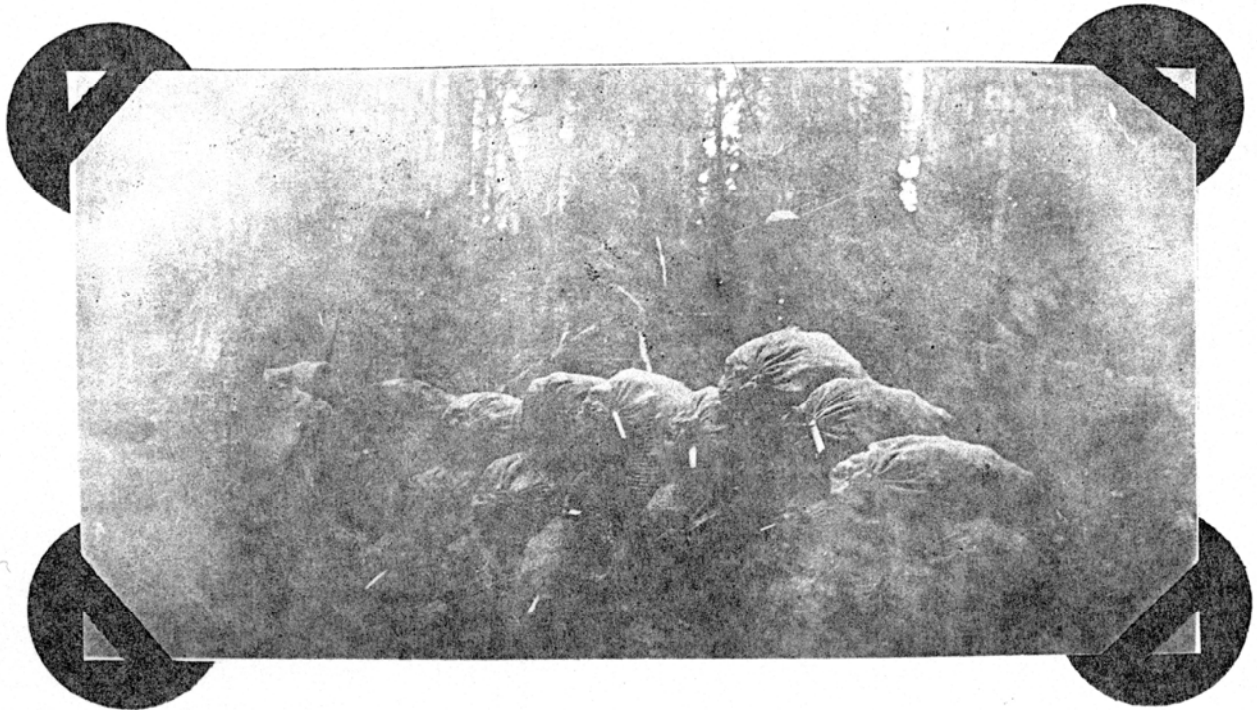
Pack train hauling cones from trails to wagon roads



Pack train hauling cones from trails to wagon roads

The tallyman would then enter "36", "48", etc. on the blank for C1 and C16 respectively, as the hauler called off the numbers. As the sacks were emptied into the bins, if any contained poor cones this fact was noted for the particular sack under the "Condition" column on the proper blank. None of these men knew who "C1" or "C16" were, and thus would have no object in crediting these pickers with sacks which they did not pick.

These Haulers Reports were checked against the number which the man himself said he picked before he was paid off. If the two did not agree reasonably closely, he was paid according to the Hauler's Report, and promised that if later his figures were found to be correct, the balance due him would be forwarded.



Sacks of cones stacked up along side of trail preparatory to being hauled by pack train.

HAULER' REPORT
RECORD OF SACKS COLLECTED BY No. (C-1)

Date	Nos.	Condition	Date	Nos.	Condition
Sept.			Nov.		
20			1		
21			2		
22			3		
23			4		
24			5		
25			6		
26			7		
27			8		
28			9		
29			10		
30			11		
Oct.			12		
1			13		
2			14		
3			15		
4			16		
5			17		
6			18		
7			19		
8			20		
9			21		
10			22		
11			23		
12			24		
13			25		
14			26		
15			27		
16			28		
17			29		
18			30		
19			Dec.		
20			1		
21			2		
22			3		
23			4		
24			5		
25			6		
26			7		
27			8		
28			9		
29			10		
30			11		
31			12		

Signature _____

6. Scale of Wages.

At the beginning a notice was posted in each camp stating that the wages would be \$2.50 per day, with a charge of \$.25 per meal deducted, but that if a man stayed with us twelve days and at time he had averaged _____ bushels per day, he would then be paid off at the rate of \$2.00 per day and board. Later it was found necessary to expand this scheme, and the following schedule was adopted:

- 1) Average less than 12 bushels per day: \$2.50 per day with charge of \$.25 per meal for board;
- 2) Average 12 bushels per day (rule applying only if a man stayed with us 12 days): \$2.00 and board for all the time the man had worked;
- 3) Average 15 bushels per day: \$2.25 and board;
- 4) Average 17.5 bushels per day: \$2.75 and board.
- 5) Average 20 bushels per day: \$2.75 and board

If a man picked for a while and then went to other work the rate of pay which he obtained while picking was used as his rate of pay for the total days worked on all jobs.

Other Wages:

Forman,	\$75.00 per month & board
Cook (if he stayed 2 weeks),	70.00 per month & board
Cook (if he stayed less than 2 weeks),	60.00 per month & board
Cooke,	50.00 per month & board
Haulers, (1 driver, 2 horses & wagon),	85.00 per month & board
Packer (Government pack train),	75.00 per month & board
Assistant Packer (Government Pack train),	50.00 per month & board
Clerk,	75.00 per month & board
Cone Bin Men,	2.00 per day & board
Tallyman,	2.50 per day charge of \$.25 per meal

A few of the ranchers wished to pick and board at home, and while this was a nuisance to us, yet because of their help and the desirability of keeping on good terms with them, we allowed them to do this and divided the number of bushels each picked by 12 and multiplied this remainder by \$2.50 for their pay.

III. The Work

Before leaving Missoula on September 11, the following notice was sent for posting to the five Postoffices nearest to the area selected:

NOTICE

MEN WANTED

The FOREST SERVICE wants men to gather white pine cones, on the West Branch of Priest River in the Kaniksu National Forest in the vicinity of the Falls Ranger Station.

WAGES: 1) \$2.50 per day; charge for board \$.25 per meal or

2) \$2.00 and board per day, if you gather bushels per day.

Report at Falls Ranger Station September 12, 1911. Bring your own bedding – all else furnished.

By the night of September 13, Camp A was in full blast. This and Camp B had been set up for us by the officers of the Kaniksu Forest, and for the first couple of days until we were sure of our ground, operations were limited to one camp, and the labor confined largely to the local ranchers. After a splendid showing made by Camp A the other three camps were rushed in as fast as possible.

Camp B was filled – overflowed – at once. The neighboring Forests and the local county was scoured for tents, but we could not get enough – and did not until the job was nearly finished. We knew that we were not properly prepared for them, that we did not have either tents or dishes for them, but we did know that “picking was fine”, that we had set out to get 20,000 bushels and that we had a month to get them in. Consequently the number of men per tent was doubled up, two tables were set (at the risk and narrow escape of losing our best cooks – it required delicate diplomacy to keep just this side of the breaking point!), and finally the ranchers’ bunk houses and dining-rooms were rented, incidentally increasing our costs. But the cones kept steadily coming in, which was what we wanted.

The following notices were posted conspicuously in each camp:

“Sept. 12, 1911.

INSTRUCTIONS FOR CAMP FOREMAN:

1. Order all supplies and commissary thru headquarters. Please order at least three days before you need the stuff. The commissary will be charged to you, and you will be held responsible for it. The sum of the amounts deducted on the commissary bill against each man plus the amount turned in to me in cash should equal the amount you are charged with.
2. As a man purchases commissary supplies, enter each article and its price, with date of purchase, on the back of his time slip.
3. When a man quits, put his time slip with itemized commissary account on back, in an envelope, seal, and send him to me for payment.

4. When a man is transferred to another camp send his time slip to headquarters. Be careful that his number is not used again. If he enters your camp again treat him as an entirely new man and give him the next highest number on your list.
5. If a man leaves and wants his check mailed to him, have him sign Form 526 and send it to me with his time.

Chief of Planting.”

“CAMP FOREMAN.

1. Give each man hired a tag with camp letter and his own number.
2. One form for each man. If he quits, do not use his number again, but give each new man a new higher number
3. Each morning give each man 5 sacks. Hold him responsible for those and check number which he reports as having filled against the number he turns in at night, which should be entered in column marked “Sacks In” on form, “Record of Pick”.
4. When two men are working together, instruct them to alternate in putting the number on tags, report separately at office at night their numbers, and report only an even number of sacks, leaving the odd sack for the next day. If the party splits, let the man remaining have the extra sack.
5. Proper deduction for defective or last year’s cones, and litter, according to hauler’s reports.
6. No credit unless sacks are tagged and tied tight.
7. Tally only fall sacks. If a man reports 5 1/2 sacks, tally 5 and tell him to fill the other and report it next day.
8. Pay \$2.50 per day wages.
9. Charge \$.25 meal board.
10. Cut to ___ day (2 hrs.) for loss of tim.
11. If after working 12 days, a man leaves and has averaged bushels per day, pay at rate of \$2.00 per day and make no deduction for board. If he leaves before working twelve days, do not apply this rule.

Chief of Planting.”

“CONE GATHERERS.

1. Each sack must be full.
2. Each sack must be tagged, numbered, tied tight and delivered on side of wagon road.
3. Old or worm eaten cones, sticks, leaves and litter, etc., must not be included.

4. Each morning each man will be given 6 sacks. These will be charged to you and you will be held responsible for them. Each evening turn in all unused sacks at office, when they will be checked off your account.
5. Wages:
 1. \$2.50 per day. Charge for board \$0.25 per meal, or
 2. If, at any time after twelve days' work, you quit the job, if you have averaged over _____ bushels per day for the days you have worked, you will be paid at the rate of \$2.00 per day and board.
6. Report any omitted meals at office.

Failure to observe these rules will be cause for a deduction in your total number of bushels.

Chief of Planting.”

“HAULERS

1. Accept no sacks that are not full.
2. Accept no sacks that are not tagged, numbered and tied tight.
3. All sacks must be delivered by pickers on the side of the wagon road.
4. Record on form provided, each sack as it is unloaded. When emptying sacks, examine for defective or last year's cones and litter, and note bad condition on form and call to attention of proper camp foreman.
5. Do not pile cones at Station more than 12 inches deep.

Chief of Planting.”

As was to be expected, the men, entirely new to this kind of work, experienced great difficulty at first in locating the caches (although most of them at this time were not “Caches” at all, but simply piles of cones on the ground ready for caching—or collecting). At dinnertime the first day we had nearly a mutiny on our hands. One old lumber-jack came in grumbling; “I’ve worked fifteen years around this here timber and ain’t had to chase these little squirrels for a livin’ yet, and I’ll be -----if I’m goin’ to!” He threw down his sacks and hit for town. However, with a little help after dinner they soon learned where to look for the caches, and the few selected for instruction came in that night with stories that made the others know it was not the squirrels’, but their own, fault that they could not fill their sacks. This, with the promise of a bonus, started the rivalry, and the “high man” of one day was fortunate if he could say the same the next. The average went up, up, until ever one of us was surprised. After picking for 12 days, the average was found to be six sacks per man per day. Accordingly the following notice was posted in each camp.

“Sept. 25, 1911.

NOTICE

The average pick of all camps up to and including Sunday Sept. 24, was found to be six sacks (12 bu.). This will be fixed as the amount which must be averaged in order to obtain the \$2.00 and board rate.

As indicated in the former notice to "CONE GATHERERS", this rule applies when a man is paid off. In other words, when you are paid the total days you have worked will be divided into the total number of bushels you have collected; if the result in 12 bushels or over, you will be paid for all the time you have been working at the rate of \$2.00 and board. This means that those men whose average is 12 bushels or over must keep up this rate until they are paid in order to obtain the \$2.00 rate and those men who are not making this average will have a chance to bring their average up before being paid.

If at the time you are paid off you have averaged 7.5 sacks (15 bushels) you will be paid at the rate of \$2.25 and board.

Your average may be obtained from your foreman.

Chief of Planting."

The above schedule was later expanded as shown on page 18.

Soon after this notice was posted, things began to hum. The unsuccessful ones gradually dropped out, the others doubled their efforts. With about one hundred men on the job, cones came in at the rate of over a thousand bushels per day. We fell behind in the hauling, the supply of sacks gave out not once but several times, bins could not be constructed fast enough to take care of the cones, and everyone was on the jump. In their eagerness to obtain the higher rates of pay the men began to get careless about filling the sacks and collecting only good cones, but this was quickly remedied by a closer check at the bins as the sacks were emptied, and by posting the following notices;

"Sept, 30, 1911

To Camp Foremen:

I want every camp foreman to put just as much time in the woods as he possibly can. It is often of great benefit to get thoroughly familiar with the country in order that, when a certain territory has been worked out, the men may be directed to country unknown to them without loss of time in skirmishing on their part. A closer check also should be kept on the sacks as they are delivered to the road side, both in regard to quality and quantity of cones, and in order to see that the number which they report is actually filled.

Please notify each man that, in case the total number of sacks which he reports as filled at time of quitting varies appreciably from the number of his sacks hauled by the driver, he will be required to wait for his pay until a closer check can be obtained on his pick after hauling from that particular locality has been completed.

Chief of Planting."

On the whole the quality of cones secured was remarkable, considering the labor we had and the bonus system used.

Then the unfortunate occurred. Things always look a little better some other place than where one happens to be at the time. Camp B men, after pretty thoroughly cleaning up around close to camp, to get more cones had to walk across the large field shown in the center of Camp B territory in order to pick on the hillsides to the west of camp. With this two-mile walk each day, the average (and therefore the rate of pay) began to drop, and the men became dissatisfied. All along the east side of Priest River there is a strip of magnificent pine. A two-day's journey was made to it with high hopes of redeeming this shrinking average. When they got there, however, they found a comparatively poor crop of cones, due to the fact that the timber was scattering and over-mature. After scouring the country for a couple of days, during which even the best pickers secured very few sacks, back again they came to the old camping ground and the two-mile walk!

At about the same time Camp D. ran out of territory at the lower camping place, and because of the narrow strip of pine timber in that vicinity and because we had to get our 20,000 bushels, they were forced to move up to the second area shown, nearly twenty miles from the cone bines. Here also, while picking was good, it was limited in area. These two moves with the loss of time involved and the very heavy hauling charges, ran our final costs up tremendously, the simple lost time for moving costing \$120.32 in wages alone. In the end hauling cost \$.071 per bushel.

Meanwhile Camp C. ran out of territory and was closed down. Camp B, however, upon its return, set in with renewed determination, and in the end wound up with the remarkable season's average of 12.5 bushels per man per day.

Picking was finally finished and the last camp closed down October 14, just one month after the first camp was started.

In order that respectable sized loads of cones might be hauled, we repaired the County road to the extent of \$158.04 in wages alone. Trail cutting cost \$52.81 in wages.

As stated, our supply of sacks ran out. We started with 1200 shipped from the Beartooth and 500 from Spokane. These were soon used up, and 1000 more were ordered by express, only to go the same route. Finally when we closed down we had 4200 on the job. And the haulers were not more than three days behind the pickers at any time, and, as found out when the job was finished, the men had not been caching their sacks in the woods instead of filling them. It was a puzzle to know where the sacks went, but 42 to the man were required, and because they were not on hand when needed, time and money were lost.

One entire camp spent one-half day looking for a "lost man". In this case, he had left his blankets and coat in camp and had not showed up again, but later turned up at Newport saying, when they told him we were scouring the country for him and that he had better telephone to us, "Let them look." Later, however, there were several men that actually did get lost, in several cases staying out all night in spite of long searches for them. Lost time for these men cost \$39.39, or \$.002 per bushel in wages – a good return on the investment, since the men were less afraid to strike out through the woods when they were sure we would do all we could to find them.

The ranchers were of the greatest assistance to us at all times, and showed the best of cooperation. Besides furnishing labor, teams and supplies, they took the men to board and to sleep, helped us out with equipment, and what was more important, let us drive where we would over their grass meadows to collect sacks which the pickers deposited there.

All sorts and conditions of men were on the job at various times. Our best labor were of course the local ranchers, of whom we had a considerable number, as pickers, cooks, and haulers.

Lumber-jacks were next in quality, and barbers, ex-university graduates, "camp inspectors", ex-convicts and I. W. W's completed the ranks.

As a rule the men stayed with the job remarkably well, even after the twelve days were up. They were receiving good wages, good board, comparatively short hours (though the Government 8-hour rule had no place), and especially in the case of the lumber-jacks, were glad of this chance to earn a little money during generally depressed times until the logging camps should open up, which occurred after we closed down.

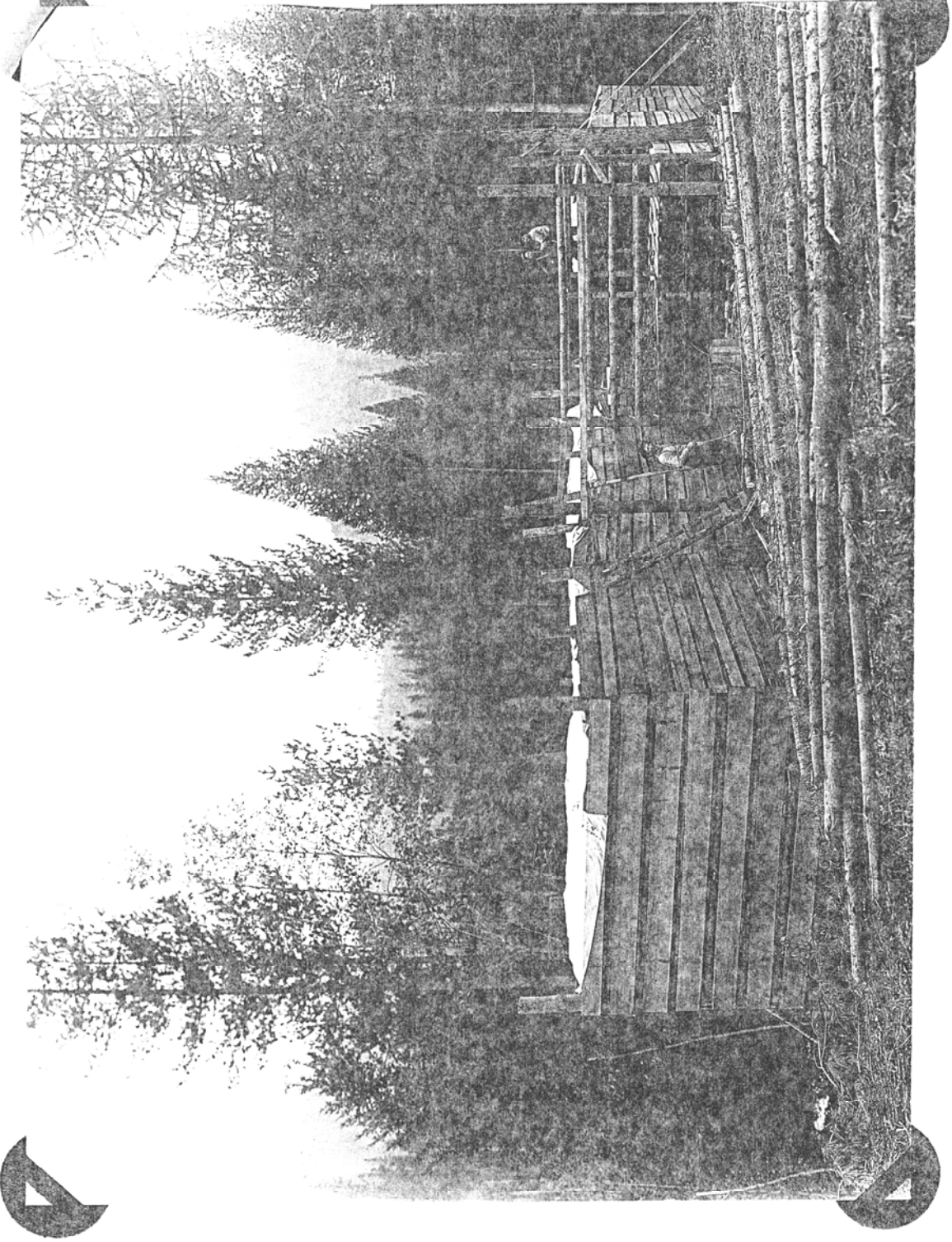
The work of some of the men was remarkable. This was particularly true of five Swedes, lumber-jacks who work ever winter in the vicinity and who always stayed together. It seemed to make no difference how scarce the cones became, how far the walk, how difficult the country. Almost as regular as clockwork, they would report from seven to ten sacks per day. There were but few other men who could even approach them. They were all as strong as an ox, and did not know what fatigue meant. Once when we were going up a steep trail, we heard a crashing and rumbling up above us, sounding like a small hurricane or a big bear coming through the timber. But it was only these five Swedes, one behind the other, each with five sacks of cones on his back (the pack horses carried seven!). The average pick per man per day for Camp B. (their camp) was 12.49 for the days actually picking, for all camps it was 10.77; their average was nearly 17.5, with high man 17.87. With an average weight of nearly 20 pounds per bushel, and 1-3/4

Bushels per sack, they earned their money. While they were so far in a class by themselves that it was rather a hopeless race for the rest, their influence on the pickers as a whole cannot be estimated. They were paid off at a higher rate than their average entitled.

The twelve bins in which the cones were stored were 16' X 16", made first of cull lumber at \$5 per M., and when this ran out, of \$9 lumber. The twelve bins held an average of nearly 1800 bushels each. Having nothing to go on we played safe by piling the cones only about one foot deep, with lots of air ventilation between the boards, both floor and side, but it now appears that they could have been piled at least twice this deep without danger of heating. The total bins, lumber and labor, cost \$671.26, or \$.031 per bushel. The photographs show in detail the construction of the bins, and no further description is necessary.

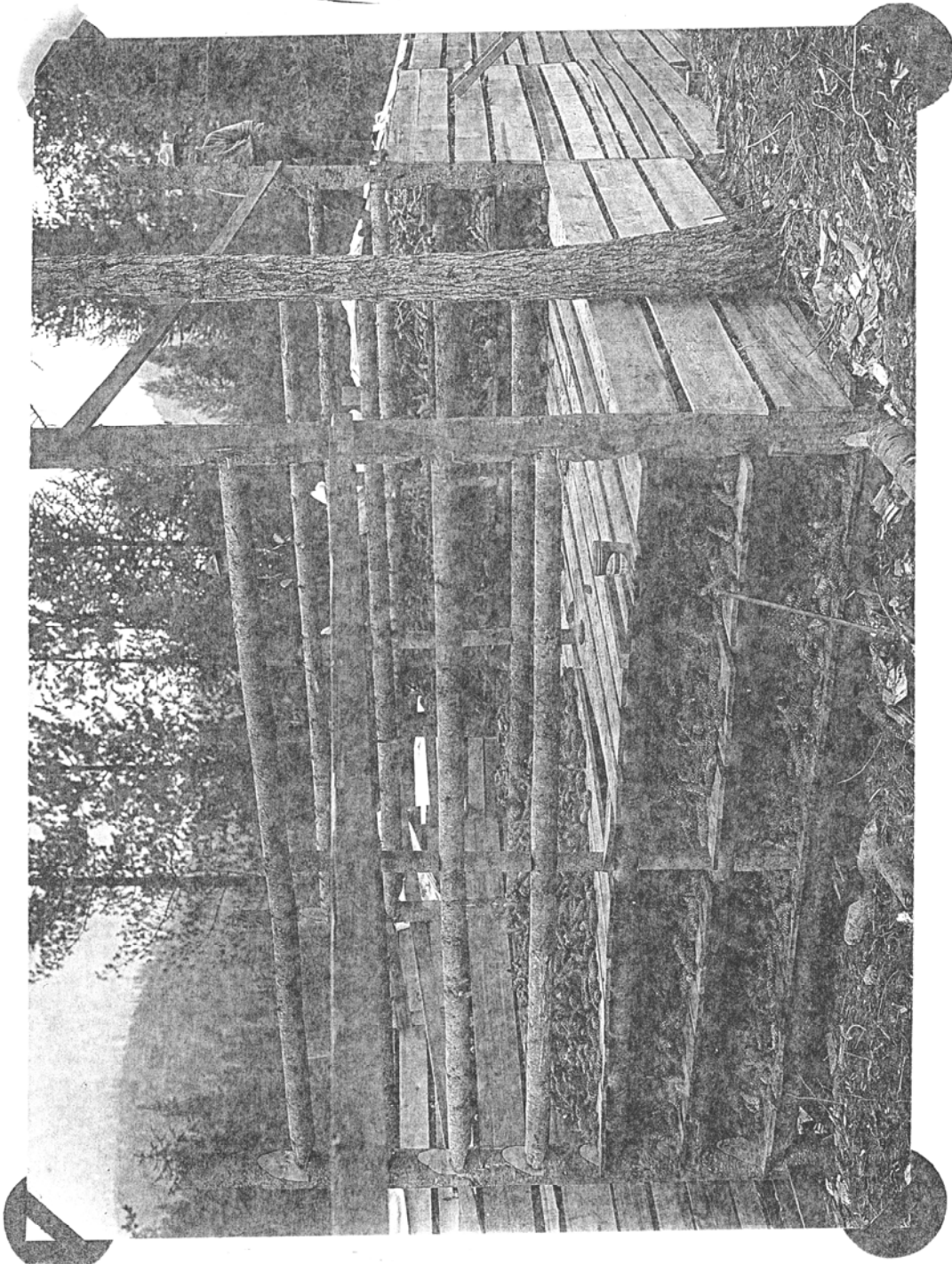
Soon after establishing camp, Camp C Foreman one night heard sounds down in the woods which took him back to his "Camp Meeting" days. He went down and ---I. W.W. meeting, with the orator on a white pine stump. There were about four of the members, the rest receptive onlookers. Having had experience the previous summer on the fire line, he began to expect trouble, but said nothing. This continued for two or three nights, with the effects of the oratory becoming more and more apparent and with an increase in membership. Finally one morning the leader -- it happened to be the cook -- refused to do what he was told. Fortunately another cook was on hand, and this fact, with his time-slip, was not to his liking. He threw the pan-cake griddle out in the brush and the frying pan in the creek. There were some bigger men than he there, however, and he was persuaded that this was not the proper thing to do. Then he called his bunch together and began an oration. The foreman told all the men to get their sacks and go out to work. The other men started out, but the "strikers" paid no attention, and in a little while their time envelopes were ready for them.

REPRODUCED AT THE NATIONAL ARCHIVES

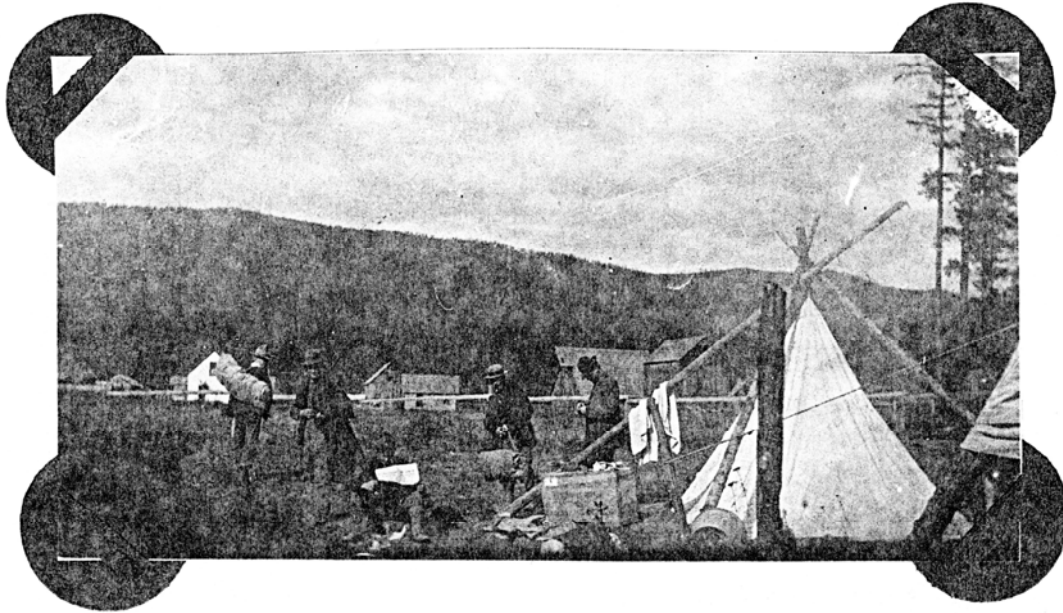


General view of arrangement of cone storage bins

REPRODUCED AT THE NATIONAL ARCHIVES



View of detailed construction of cone storage bins.



They came down to headquarters for their pay. The cook was the first one. He had a kick about the amount of his check, winding up with "I have a say about running this Government as well as you do". "Yes, but not about this particular division of it." They went down the road singing their songs and decorating the roadside with their little circular "I won't work" tags, and thenceforward there was not trouble with them or any others.

The photograph shows them as they were leaving.

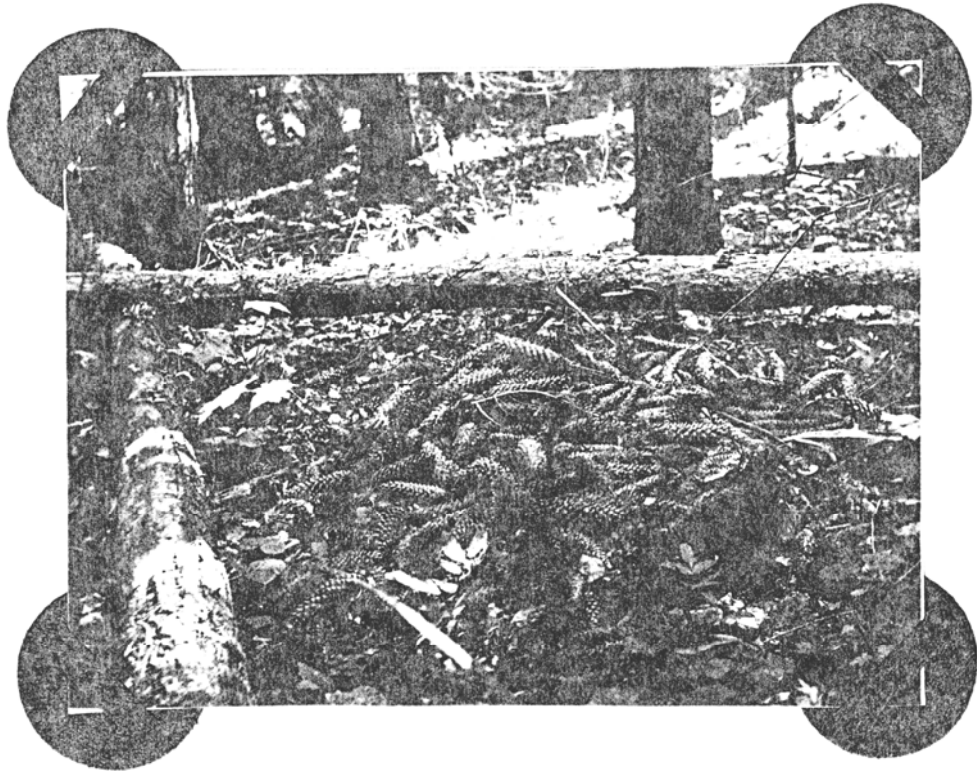
As to the squirrels, that country picked over was thoroughly done, but almost without exception within a mile of all picked areas there were other areas which, owing to topography or lack of trails, were untouched. Only white pine cones were gathered, the cones of all other species being left in the cache. Even in the closest picked areas there are necessarily caches which the pickers do not find. And again, toward the last of the job, the squirrels began to hunt sacks of cones rather than the tops of the trees, and as one old Frenchman put it, "The leettle thief, I swiipe heem one sack and heem swiipe me two."

IV. Criticism

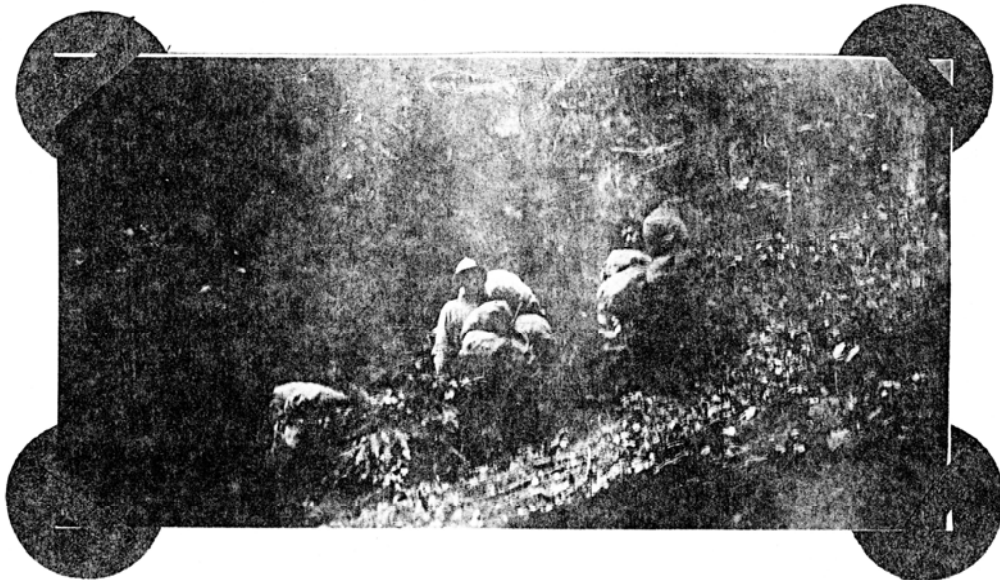
Practically all of the important losses in time, money and efficiency on the job can be related directly or indirectly to two main causes, viz.: (a) lack of experience with, or data on, seed collecting operation of this magnitude; (b) lack of time for investigation and organization.

Doubtless the occasion for by far the greatest loss was a lack of sufficient sacks to allow the work to go on most efficiently. This lack of sacks was at times serious enough to compel practically an entire camp to start out in the morning with only a few sacks apiece with the understanding that the cones would have to be emptied into piles in the meadows until sacks become more plentiful. In other cases men could take only enough sacks to allow them to pick for part of the day, and might even have to stop in the middle of the process of sacking up a big cache, with the result that a trip had to be made to this spot on the following day or else that this part of the "find" was lost.

These are the effects. The causes may be summed up under these three headings, viz.: (a) lack of experience; (b) lack of close enough supervision of teams; (c) lack of sufficient pack horses.



Squirrel cache, showing cones on top of ground preparatory to being covered. The ones shown with these stored underneath them in all made 10 bushels of cones.



Pickers packing sacks of cones on their backs from the woods to the trails

(a) Lack of experience and data:

The conditions which had most to do with the lack of sacks was the lack of experience or data which would lead to even a fair approximation of the total number of sacks required to keep 100 men, distributed among four camps, supplied with sacks. The situation was made more complex by the constantly changing conditions in regard to the distance from the camps to the storage bin, the varying amounts of cones gathered by the same camp in the same length of time, etc.

It was thought that twenty sacks per man would be sufficient if the haulers kept reasonably close to the pickers. But it was found to be impossible to keep all the sacks hauled in as fast as filled since too much of the driver's time is spent picking up a load when he had to go up more than one branch road to get it. In order to do efficient hauling he must be able to pick up a load on each branch road or meadow that he drives upon for sacks.

The camps gradually became more and more separated, and as the territory adjacent to the roads became picked over, more sacks were left on the trails in the interior until it finally became necessary to have forty-two sacks per man. Had some data been at hand by which to gauge the number of sacks required they could have been ordered in one lot in advance and much time and transportation charges saved.

(b) Lack of close enough supervision of teams:

Part of the time the situation could have been relieved if the teamsters had kept their eyes open to the situation and planned their trips so that in a time of shortage of sacks they could get in some shorter hauls instead of going back to the far end of a cross road simply because there was a load there and because they had started to draw from that locality. This objection might largely be overcome by some such system as mentioned under "Supervision of haulers".

(c) Lack of sufficient pack horses:

Had enough pack horses been at hand so that there could be a pack train for each two camps at least, the sack situation would have been somewhat relieved and also a saving of time, sacks and cones would have resulted. As it was the men had to keep from placing the sacks on the trails as long as possible, and after being placed there the sacks soon fell a prey to the squirrels who immediately proceeded to cut up the sacks and removed the cones.

(d) Supervision of Haulers:

Another factor which was the cause of some loss was the lack of sufficiently close supervision of the teamsters. The pickers were carefully watched by the camp foremen who were given to understand that they were directly responsible for the quantity and quality of the work done by their men. The pickers were more or less a fixture in a camp and the foremen could in general keep track of each man. In contrast to this condition the teamsters were shifted from camp to camp as occasion demanded, with a result that the foreman could not keep track of the haulers as they could the pickers.

On an undertaking of this size it would have paid many times over to have had a man with a saddle horse whose sole duty would be to look after the teamsters and packers and to scout out new territory for picking. With one man giving his entire attention to this phase of the work, he should be able to keep the entire situation clearly before him and should be able to develop an organization which would give most efficient hauling. (1) Unlike the haulers this man would not have his mind concentrated on the simple operation of getting each individual load and getting back to camp by meal time, but would constantly be planning for future hauling. In this way the

sack situation could have been much relieved since at all times the haulers would be working most advantageously. (2) This man could also make trips up the side road and be able to know when to send a team up this road for a load as soon as one was ready and not before. It frequently happened that a teamster made a trip of several miles up one of these roads only to find that this road had been so recently gone over that few or no sacks remained. (3) By making a study of the lay of the roads he could perfect an organization whereby more work could be accomplished by the same team. Since the size of the load is determined by steepest hill or the worst stretch of road, it often happens that a teamster was compelled to go the entire distance with a light load on this account. To overcome this the light or slow walking teams could be detailed to these short hauls, drawing light loads over the bad places and leave them on the good roads for the "main haul" teams. This system was employed to some extent on the longer hauls, but with closer supervision this situation might be better worked out. (4) A man in this capacity would be in line to settle disagreement in such questions as: The additional wage which a teamster is entitled to when driving four-horse teams over certain roads in addition to the wage received for driving a two-horse team. Having seen more or less of both sides of the situation he may be relied upon to pass a favorable judgment. It would then not be necessary if the conditions in question were not definitely known, to rely entirely upon the opinion of the teamster or to turn him down in case the proposition does not look reasonable in general, although it might be in this special case. (5) Not the least benefit which would be derived from a man in such a capacity would be the location of new districts in advance of moving camp and thus eliminate all unnecessary expense and loss of time in fruitless moving.

V. Data

The men were actually paid off according to the scheme given on Page 18, on the basis of each sack holding two bushels of cones. For a final estimate, however, a large number of sacks were carefully measured, and as a result of this and in order to be conservative, the average was placed at 1.75 bushels per sack. Aside from this scale of wages, all proceeding and all succeeding computations are based on this latter ratio.

Total Bushels.

Total bushels collected, according to "Record of Pick" sheets,	23,189.25 bushels
Total bushels collected, according to "Haulers Report" sheets,	21,439.78 bushels
Difference, or loss,	1,749.47 bushels

Or 7.54%

The 21,439.78 is the figure taken as the total amount collected and is used in obtaining all the following costs per bushel.

It seems probable that at least 300 bushels (170 sacks) were scattered around on the various trails and roads and became covered with snow before we could get them. The squirrels recaptured perhaps 350 bushels (200 sacks) all in the last few days on the job when they worked with surprising rapidity. The rest of the loss or 1099.47 bushels (630 sacks) must be charged to the men reporting more than they actually picked in order to obtain a higher rate of pay. Where their report and the Hauler's report did not agree, unless the difference was considerable we were inclined to give the men, many of them having no permanent Postoffice address, the benefit of the doubt (since hauling was not completed when they were paid off) rather than hold them up in their pay for several days.

These figures in themselves seem large. Considering the total number of bushels collected, however, we get the following per cents:

Lost in woods,	1.29%
Recaptured by squirrels	1.50%
Reported but not actually picked	<u>4.75%</u>
Total loss,	7.54%

The following table gives the above figures by Camps:

Total Bushels each Camp:

	<u>Their Report</u>	<u>Haulers Report</u>	<u>Difference</u>	<u>%</u>
Camp A	7820.75	7173.25	647.50	8.4
Camp B	7374.50	7040.25	334.25	4.5
Camp C	4847.50	4551.75	295.75	6.1
Camp D	<u>3146.50</u>	<u>2674.53</u>	<u>471.97</u>	<u>15.0</u>
Total.	23,189.25	21439.78	1749.47	7.54

The figures for Camp D are due to the long haul, the scattering location of the picking areas, and to the fact that hauling was not finished until after snow fell, resulting in heavy losses due to squirrels and lost sacks.

Area and Average Bushels per Acre:

Camp A	covered 6229 acres	collected 7173.25 bu. or	1.15 Bu. per Acre.
Camp B	covered 4131 acres	collected 7040.25 bu. or	1.70 Bu. per acre
Camp C	covered 3749 acres	collected 4551.75 bu. or	1.21 Bu. per acre
Camp D	covered <u>6567</u> acres	collected <u>2674.53</u> bu. or	<u>.41</u> Bu. per acre
All Camps	covered 20,676 acres	collected 21,439.78 bu. or	1.04 Bu. per acre

Total Days worked:

	<u>Total Days Worked</u>	<u>Total Days Picking</u>
Camp A	993.01	704.63
Camp B	933.32	563.50
Camp C	617.50	425.50
Camp D	496.13	295.50
Cone Bins	365.28	
Supervision, hauling, etc.	<u>488.20</u>	<u> </u>
Grand Total	3,893.44	1,989.13

Average Pick:

Average bushels per day per man:

- a) $\frac{\text{Total Bu. (Haulers Report)}}{\text{Total days picked}} = \frac{21,439.78}{1,989.13} = 10.78$ Bushels
- b) $\frac{\text{Total Bu. (Haulers Report)}}{\text{Total Da. Worked, all projects}} = \frac{21,439.78}{3,893.44} = 5.51$ Bushels

Average per day per camp:

	<u>Camp A</u>	<u>Camp B</u>	<u>Camp C</u>	<u>Camp D</u>
a) $\frac{\text{Total Bushels}}{\text{Total days picked}} =$	10.18	12.49	10.70	9.05
b) $\frac{\text{Total Bushels}}{\text{Total days worked}} =$	7.32	7.54	7.36	5.39

It is hardly necessary to give figures on the amounts of provisions necessary, since reliable ration lists are now generally available.

It was other data which we needed, and some general conclusions drawn from the work which may be of benefit in future operations are herewith given. Of course conditions vary, and adjustments will necessarily have to be made, but as a basis from which to figure, assume the camp to have twenty-five pickers (which we found to be the proper size for best management), and the average pick per man per day seven bushels. The twenty-five men would then pick 175 bushels, or at 1 2/3 bushels per sack, 100 sacks per day.

One two-horse team, with wagon fitted up to carry fifty sacks per load, over fair roads, could, with an average haul of four miles, keep even with the pickers. This means two trips, or sixteen miles per day, and to do this the sacks must be fairly well bunched on one or two roads. If the roads enable 100 sacks to be hauled per trip, the camp can be eight miles from the bins, and so on.

Should the entire camp be placing the cones on trails, it would require eight pack horses to move these cones an average distance of two miles to the wagon road, since each horse carries from six to seven sacks per trip, and eight horses would therefore carry fifty sacks on each of two trips per day. Here it might be mentioned that it saves much time for the pack train by having the sacks bunched on the trail as far as possible.

Where none of the men are placing sacks on trails, six hundred sacks should be provided for this camp. This number is necessary for the reason that in order to be able to pick up fifty sacks quickly twice a day, many more than one hundred sacks will in most cases have to be out along the various roads, and there are often accidents delaying the teams, while the picking goes steadily on.

If all of the men are putting sacks on trails, at least one thousand sacks should be provided.

The sliding scale for payment of pickers (p. 16), cannot be too highly recommended. With it, however, close and constant supervision and checks are necessary.

VI. Costs.

Costs by Projects:

	<u>Total Cost</u>	<u>Cost per Bu.</u>
Supervision,	\$850.49	\$.041
Foremen,	354.96	.017
Telephone,	25.88	.002
Packing Sacks (Gov't. Pack Train)	120.22	.006
Food Supplies and Cooking	3,000.74	.140
Hauling Cones	1,515.62	.071
Picking Cones	4,502.95	.210
Office (Clerk, Supplies),	142.25	.001
Cone Bins,	271.26	.031
Moving Camp,	120.32	.006
Work in Camp (Cordwood, etc.)	138.26	.007
Lost Man	36.59	.002
Repairing Roads	158.04	.008
Cutting Trails	52.81	.003
Miscellaneous	<u>102.86</u>	<u>.005</u>
Total,	\$11,801.05	\$.550

Average Cost per bushel:

a) \$ for picking = 4502.95 = \$.21
Total Bushels 21439.78

b) \$ for whole job = 11801.05 = \$.55
Total Bushels 21439.78

The total days worked by all of us, no matter what kind of work we were on, is 3,893.44. Provisions and cooking cost \$3,000.74. At three meals per day, this gives 11,680.32 meals, or \$.257 per meal.

Summary:

Total Bushels collected,	21,439.78
Total final cost per bushel, all items included,	\$.55
Average pick per man per day for the days the men were actually picking,	10.78 Bu.
Average pick per man per day for the total days everyone put on the job,	5.51 Bu.
Loss due to squirrels, lost sacks and false reports	7.54%
Total area picked over,	20,676 Acres
Average bushels per acre,	1.04

6-19-'12

HENRY H. FARGUHAR