

MARKING BY ARTHUR L. BENNETT

Manager, Department of Woodland Operations
Armstrong Forest Company
Johnsonburg, Pennsylvania

I am not thinking of any hypothetical management but of supplying our pulp-mills, so my primary objective is going to be maximum pulpwood production. A secondary objective will be to grow some high-quality cherry veneer logs and I have left a number of black cherry trees for that purpose.

You will see that I marked for a substantial cut, approximately 50 percent of the volume, and approximately 50 percent of the basal area, but note that I have taken out only 60 live trees and there are upwards of 600 trees (above 1 inch d.b.h.) on the plot. I have taken out the larger trees, releasing the smaller ones. Also, if you will look at the trees I have taken out, I favored the crop trees with the yellow bands on them, as these are the ones I am going to try to pull through subsequent cutting cycles because they have good form, and are of desirable species.

Another thing I am thinking of in my cutting here is that I have wood-cutters to satisfy. We know the best size tree to use for pulpwood is around 12 inches d.b.h., so I have to look forward to try to grow these trees to that size. Since the cost of cutting pulpwood from trees under 8 inches d.b.h. increases tremendously, you will note that I have avoided taking many trees under 8 inches. Perhaps in our girdling operation we might remove some of the defective trees but I have not included any of them in my tally.

You will notice that I have taken out the poor-risk trees in most cases. By taking out the large soft maple trees, I am trying to keep mortality in the stand to a minimum. In 1940 we cut to an 11-inch diameter but I don't think that cut was heavy enough, as we probably suffered some loss from mortality.

Another thing we always have to think about, is that we have certain improvements such as roads which are costly to build and maintain. We charge off those costs on the current production of pulpwood, so we like to keep our volumes high enough to reduce our per-cord costs. In other words, if we took out three or four cords per acre in an area like this, and we had a high cost in gravelling roads and building these feeder roads, somebody might be on my neck. Furthermore, I doubt if I could get pulpwood jobbers to work with such low volumes. I have gone over this hurriedly to save time and if there are any questions, I will be glad to try to answer them.

Discussion

Bower How much volume did you take off?

Bennett There are 31 standard peeled cords per acre. I actually cut out 16 cords from live trees and salvaged 2 cords from dead merchantable trees.

Bacon What is your reference to a 50 percent cut and that an approximation of the basal area gave about 90? That means you have about 45 square feet of basal area left. Usually we figure to bring it down to 70 or 80, in trees 6 inches d.b.h. and over.

Bennett The basal area on this one-half acre was 57 square feet, plus or minus, or about 115 per acre; if you divide 115 by 2, you will have the basal area (57) after cutting that I am leaving here to grow.

Kriebel Did you say that you are not taking trees under 8 inches? You have a 6 and a 7 marked.

Bennett That is correct. They were salvage trees. I marked them, but I may not force the woodcutter to cut them. If he wants to take them, all right but I still have enough volume left for him.

Gabriel What are your undesirable species?

Bennett In my opinion the best quality trees on this plot are soft maple. You may look shocked gentlemen, but you can't help but agree with me if you look closely. The least desirable on the plot is, of course, black birch and they are about out of the picture. As I pointed out yesterday, we don't like to think of any one particular tree as being least desirable. One criticism I have here, is that perhaps one or two of the yellow birch might have made better crop trees than the maples that were selected.

Bourdo What is the cost of removal and what cost would you add to this for roads?

Bennett Well, the roads might run as much as \$1.00 a cord, with a stumpage value of \$1.50. You see we have a fairly high cost for improvement. Furthermore we know if we have a lot of 6- and 7-inch trees our girdling cost may be as high as \$2.00 per cord. In girdling 12- and 13-inch trees, it might be less than \$1.00 a cord.

Bromley It looks as though your ultimate objective is maximum value, that is, income per acre.

Bennett That is correct. Some of these trees do have log material in them and with the heavy cut and under ordinary conditions if we had plenty of wood in the woodyard, I might normally let some of these trees go for logs. One stipulation we have followed is that where we have to salvage the tops, we put a 12-inch inside log diameter on the logs that are taken out, because we like to leave a substantial part of the stem there for the woodcutter to work up for pulpwood. By stopping at 12 inches we know that the sawlog man is able to pay us the highest stumpage value for that type of log.

Gabriel Do you have any idea what the future stand will be, that is, what will be your eventual reproduction?

Bennett The eventual reproduction question revolves around the crop trees.

If we can pull those through, make them our elite trees through three or four more cutting cycles, those are the one that will probably seed this area at the time we will want to open it up and start the regeneration. I would say that from a practical standpoint, and from a genetical standpoint too, we are aiming for the trees you saw during the picture session last night - the elite trees in Germany - if we can grow that kind of trees for pulpwood, we are going to keep our jobbers and pulpwood cutters much more happy. Referring to the operation we saw yesterday; one of the woodcutters worked there in 1941; he is back in the same area cutting today and he remarked to me that there are a lot nicer trees to cut now than there were originally.