

fastened together as shown with snaps. It is necessary to connect slightly heavier galvanizing the pipe. The device or one of should be used in the filling of

Sermon from Sandy.

mer's Advocate":
and maybe, gin I gie ye another that I heard frae oor preacher. He has na objection, he tells me, on his ideas an' words, for gin in them the mair that hear gin they pit them tae practical pairt o' their life an' character, anything that's no' true," he says, "siders hae the sense tae see it fectit' by it. Onyway ye're free onything o' mine that ye see t' last sabbath mornin' was we attain it this year?" "It ne went on 'that there is only find optimism noo-a-days, an' ctionary. Noo what I want tae is tae mak' a bit o' a study o' gin there's ony truth in the though it was na doot intended ond-handed joke by some chap the subject muckle thought, as r. In the first place what is oor takin' a cheerful view o' ? Weel, ye'll say, ony mon that like that in this second year o' nations o' Europe are a' busy e anither oot o' existence, an' ntry is mixed up in the trouble her, is no' vera weel acquainted ans, not only tae those engaged ka person on the face o' the where the fightin' is on the scale oo in the fields o' France an' heard that 'war is hell' until he expression, but at the same there is a hale lot o' truth in o' settlin' disputes by might will aye bring trouble an' misery ye men that are lost tae the ferin' an' poverty that comes tae uals are proof eneuch o' that. rel can be settled in no other we dae but tak' the rifle an' tae wark an' settle it. Gin a n tae reason we maun just use s o' makin' an impression on is reason I say that war can be useful purpose in the world, an n for granted hae we no' the t we are justified in takin' also w o' the hale business. Maybe wee bit higher up we'll see mair bject aimed at may justify the reach it.

abit o' talkin' about the 'horrors ough it was the worst possible come tae ony country, but let t there is sic a thing as the ' as I heard one mon express o' mair damage tae a nation that they could possibly engage on's manhood is being weakened interpenance or sensuality we s it over wi'oot muckle notice t the same time it's a thousand a mon tae gae tae the dogs the a shot doon in battle. In the ay dee the death o' a hero, but e baith soul an' body are del an' wha can tell what they tae the individual an' tae 'pos- cover up the 'horrors o' peace' t wi' the 'horrors o' war,' an' are mair affectit by them. An' eason why we can be optimistic, middle o' this greatest war the seen. There isn't ony kind o' are undergoin' punishment an' ain' aff the track as we certainly durin' the past years. The last ty years hae been years o' ther words it has been a chase pleasure o' a' kinds, wi' little things that are worth while, in' up o' a decent character an' d in oor nation. In my judg- asna' come a meenute too soon, t that the incentive tae heroic ings wi' it alang wi' the hard- l compel us tae endure in the l dae mair for the race than e can imagine. An' gin this is we no' be optimistic. They tell e o' the different countries that een transformed in a way that o' wonderful, in the past year. easure-seekin' life has been ex- e o' earnest endeavor tae dae p their country an' their fellow- s only a beginnin' I believe. If g that will pit backbone intae t will be the defendin' o' their

native land or the auld land across the water, an' gin we see that this is takin' place I say we hae reason tae be optimistic. Some guid will come oot o' a' this purgatory we are goin' through, ye may be sure o' that. A hundre years ago when Napoleon was tryin' his best tae conquer Europe it was pretty hard tae see ony benefit in a' the bloodshed an' destruction o' property that he was responsible for, but oor democratic form o' government was the direct result o' it a', an' surely that was worth the price that was paid. An' why hae we no' the right tae believe that some guid result will come oot o' the present war that will dae as much for oor humanity as that ither did. This world took a lang time in the makin' an' we hae na' need tae be discouraged gin things are no' im- proved juiust as fast as we wad like. Humanity canna' be transformed over night, but gin we look back a few hundred years we can see that we hae made progress in mair ways than one, an' the vera fact that we are at war because o' oor national ideals is pretty guid proof o' it. I hae heard the progress o' the world compared tae hae heard the progress o' the world compared tae that o' a drunk mon on his way hame at nicht. He wanders frae side-tae-side an' sometimes ye canna' tell juiust which way he is tryin' tae gae, but he aye manages tae keep his face towards hame an' gets there in the end. Sae it is with this auld world. Its progress is unco' staggerin' an' unsteady at times an' we wonder gin man- kind is gaein' tae ever fulfil the destiny that was intended for him, but when we tak' a langer look we can see that we are headed for hame an' gin we keep up oor courage we are bound tae win oot sooner or later. The possibilities for man- kind in the way o' happiness an' usefulness are wi'oot limit an' we are being led an' guided to- wards that end a' the time. The only thing that can knock us oot is oor ain foolish actions. Sae, gin we use a wee bit o' common sense in oor daily life we hae every reason tae be optimistic about the future an' tae keep oor courage up tae the highest point even gin the world is at war an' everything seems tae be gaein' tae pieces.

"Somebody will maybe be askin' what about a' the crooked wark in connection wi' the govern- ment war-contracts an' a' the graffin' an' stealin' that has been gaein' on in this country durin' the past year. It doesna' show muckle progress alang the line o' morality onyway, they will say. Weel, maybe it don't in a way, an' then in a way it does when ye look at the outcome o' it a'. Can ye point tae ony o' these grafters that made ony money by their crooked business in the horse deals an' ither things alang the same line? The law got after them an' they ken noo, an' everybody else kens, that it doesna' pay tae be dishonest, an' the richt has cam oot on top again. Sae again I say why shouldna' we be optimistic an' hopeful for the future o' oor people when the law breakers are punished sae quickly an' honesty gets her richt place in the eyes o' the world. As I said before the nations canna' be reformed in a day, but a' the same the pro- cess o' reformation is gaein' on, an' we want tae see that we dinna' lose courage an' sae spoil oor chance o' haein' a hand in the business; for o' a' the wark that a mon can be engaged in there is naething that will bring him the happi- ness an' satisfaction that he will find in helpin' his brither man tae get over the rough places in the journey through life. It's a hard trip for a lot o' us, no mistak', but gin we can keep oor eyes on the 'side o' the cloud that the sun is shining on, we'll worry through a lot easier, an' what's mair we'll maybe gie the Lord an excuse for having placed us where we are, for the opti- mist is the mon that does the world's wark, an' the one the world is unco' willin' tae pay for the time he puts in on the job.

"That's the way the matter stands tae 'my way o' thinkin'," says the preacher, "but ye are a' at liberty tae dae yer ain thinkin' on the subject an' come tae the conclusions that suit ye best. It's a free country."

SANDY FRASER.

How do You Plow and Cultivate?

The season has again rolled around when one of the main jobs on the farm is plowing, the first preparation the land gets for next season's crop. We have been wondering whether or not our readers have noticed any difference in the crops in their locality which have been grown on land plowed differently in the fall. Some favor deep plowing early after harvest, following this by several strokes of the stiff-toothed cultivator. Others work the land lightly early after harvest, and late in the fall plow deeply, leaving the land in this condition over winter. We invite readers to give us their experience with these two methods of cultivation, and also to indicate whether or not they have noticed any difference in the crop on land plowed well and that care- lessly turned over. Some people tell us that plowing is a lost art and that most of the land at the present time is simply "blackd" over. We are firmly convinced that plowing should be well done, and that it is one of the most important operations connected with the operation necessary

for a heavy crop. No man can afford to "root" the soil over simply to get it done. The best crops come from the best-worked soil, and plow- ing is the basis of all good cultivation. Our readers are invited to give us results of their practical experience in good plowing as compared with that more carelessly done.

Curing Tobacco.

Editor "The Farmer's Advocate":

As the harvesting of the tobacco crop is now in progress, and considering the increased acreage of the flue-cured types, which is grown in the County of Essex this season, a few words might not be out of place, which would be of any assist- ance to those who are curing this type of tobacco for the first time.

It is essential that the tobacco should be selected when cutting, as each kiln should be filled with tobacco of an equal color, and stage of ripe- ness, as tobacco with a coarse, heavy leaf will require different treatment in the kiln, from that of a light textured leaf. The most satisfactory results are obtained by splitting the stalk, as it allows the moisture to evaporate more quickly and the kiln can be cured out in less time, and at lower temperatures, than that which is har- vested in the usual manner, by spearing the plant on to the lath. Extreme care should be taken when handling the crop during the harvesting operations, so that the leaf is not crushed, as the least bruise in the leaf will cure out a dark color, and thereby injures the quality of the cured product. There are a number of rules which can be followed in the curing of yellow tobaccos, all of which may give satisfactory re- sults. In cases where the tobacco has been grown under ideal conditions, and contains but a small percentage of moisture, artificial heat is used to regulate the humidity, and this is affected by the amount of water contained in the leaf, and the prevailing weather conditions. Most of the formulas or rules are based on the temperature of the kiln, with scarcely any reference whatever to the humidity, which is really the most im- portant item in the curing. The next important item to heat is that of ventilation, which is most important in controlling the humidity of the kiln.

Few growers appear to appreciate the value of ventilation, as most of the kilns which I have seen in this part of the country are greatly de- ficient in this respect. Sufficient bottom and top ventilators should be provided, and fitted so that they can be controlled as desired. During the earlier part of the curing, chiefly known as the yellowing stage, it is desirable to have a humid atmosphere in the kiln, and as the tobacco be- comes sufficiently yellow it is necessary to open the ventilators. During the next stage, which is commonly called fixing the color, it is necessary to expel the moisture as fast as it is given off by the leaf, and plenty of ventilation is necessary for success during this period. If the leaf con- tains much moisture when the yellowing is com- pleted, blotches of red, or brown, will begin to appear on the surface of the leaf. This is caused by insufficient ventilation during the latter part of the yellowing stage, which is commonly called sponging. If the tobacco is of a heavy leaf and coarse texture, it is often too late to remedy the trouble at this stage, but if the tobacco is of a light leaf and fine texture the trouble can be checked by giving plenty of ventilation. There is another item known as scalding or blistering, which is caused by advancing the heat too rapidly, while the leaf is still green and full of sap; the leaf will turn a greenish black color. If this occurs in the kiln, reduce the temperature.

I have found the following rules governing the curing period, to give fairly satisfactory results in curing tobacco of a medium light leaf. The yellowing can be accomplished at any temperature

from 75 to 105 degrees F. It is well to start at 75 or 80 degrees, raising the temperature slowly to 110 or 115 degrees at the completion of the process. The different changes which take place and which cause the leaf to change from a green to a yellow color, come about while the leaf is still living, and at a temperature above 120 degrees F., the leaf is rapidly killed, so that this limit must not be exceeded during the yellow- ing process. Care must be taken so that the leaf will not dry off too rapidly during the beginning, but as the yellowing stage advances the humidity of the kiln must be decreased by slowly raising the temperature and gradually increasing the ventilation. When the tobacco is sufficiently yellow the most critical stage of the curing is reached, namely, fixing the color, for insufficient ventilation during this period will cause much trouble in the kiln, and will greatly injure the color of the tobacco. The most satisfactory re- sults are obtained when the temperature is gradu- ally increased throughout this part of the curing until 130 degrees is reached, and during this period both bottom and top vents should be open, for during this stage the leaf rapidly gives out its moisture, and the moist atmosphere of the kiln must be replaced by the less humid outside air, so that a continual current of air passing through the kiln is necessary for success during this period, especially when curing tobacco with a coarse, heavy leaf. The temperature should be maintained at 130 to 135 degrees F., until the leaf is completely dried out, when all danger of sponging will then be past, and all that will now be necessary is to dry out the stems, and stalks. The ventilators should be partly closed, and the temperature slowly raised to 165 or 170 degrees. This temperature is maintained until the stalks are completely dried out. It is not advisable to increase the temperature above 175 degrees, as you are liable to scorch the tobacco which gives it a reddish cast.

In controlling the humidity of the kiln during the yellowing stage and the earlier part of fixing the color, it would be advisable for those who have not had much knowledge of handling kilns, to use two evenly-graded thermometers, the bulb of one to be surrounded with a piece of thin muslin, which is connected by a wick of clean cot- ton to a cup hung a short distance below, and which, while the instrument is in use, should con- tain clean rain water. The water from this cup is drawn upward through the wick to the muslin that surrounds the bulb, and thus the surface of the bulb is kept constantly moist, while that of the other bulb is dry, as the water on the surface of the wet bulb will evaporate into the air about it more or less rapidly, according as the air con- tains more or less moisture, the more water the air contains, the less rapid is the evaporation, and the less water in the air the more rapid is the evaporation. Since water in evaporation absorbs heat, the temperature of the wet bulb is lowered more or less, according to the rate of evaporation, so that by noting the difference in the temperatures registered by the two thermome- ters, we form an idea of the amount of mois- ture in the air, and vice versa. When the two thermometers register alike, the air in contact with the wet bulb is saturated with moisture, so that evaporation ceases. The thermometers should be hung side by side in the centre of the kiln among the tobacco, and during the first stages of the curing, the humidity should be held at two degrees difference between the wet and dry bulb. As the yellowing advances the differ- ence in the temperature between the two bulbs should be slowly widened so that when the yellow stage is completed there should be a difference of at least 15 degrees between the two bulbs, and during the fixing of the color the difference should not be less than 15 degrees. The object of the operator during this stage should be to have as wide a difference in temperature as possible, be-



A Nice Field of Wheat.

Forty-five bushels of Dawson's Golden Chaff per acre, on the farm of J. T. Murray, Middlesex Co., Ontario.