

The Farmer's Advocate AND HOME MAGAZINE.

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wonderfully. Our own herd at Weldwood was allowed to graze for a short period on a twenty-five-acre field newly seeded, one-half to red clover and the other half to sweet clover. However, watch was kept to see that sufficient growth was left to protect the roots and to act as a blanket for the winter. The heavy growth of clover rendered it imperative that something be done to prevent smothering, and as the season was dry the roots suffered no harm from tramping. There are exceptions to the general rule, but one cannot afford to be penny wise and pound foolish, and thus ruin the prospects for a hay crop in the succeeding year. Where new seeding is pastured at all it should be pastured only lightly, and some attention given to the following crop as well as to needs at the present time.

Nature's Diary.

By A. BROOKER KLUGH, M. A.

On many of our trees, shrubs and herbs there are often peculiar growths known as galls, and some of these are so large and conspicuous as to be familiar to every ramble in the country.

These abnormal growths may occur on the stem, leaf-stalk, leaf, root or flower-cluster of the plant, and are caused by a great many different organisms. Most galls are due to two groups of insects, the Gallmidges and the Gall-wasps, but many are caused by Aphids, Mites, Moths, and Beetles, while others are the result of the activity of certain fungi.

While galls occur on a great many different plants there are certain families and genera of plants upon which they are particularly abundant, such as the willows, oaks and roses, over four hundred different kinds of galls, for instance, being known to occur on North American oaks.

Galls result from tissue hypertrophy ("super-growth") brought about by the action of a foreign substance introduced into the plant. In some cases this substance is a fluid injected into the plant by the female insect in laying the egg, but in most cases it is a fluid secreted by the larva. In the former case the gall begins to form as soon as the egg is laid, in the latter not until the egg has hatched and the larva has become active. In the case of insect galls, which constitute by far the largest group of galls, the substance secreted by the larva is an enzyme which has the power of converting starch into sugar, and it is on this sugar solution which the larva feeds.

Galls are of many very diverse types, from a simple "dimple" in a leaf, such as is caused by many of the Gall-mites; through the "pouch galls" in which the leaf surface is depressed into a pocket in which the insect lives; the "covering gall" in which the tissue rises up around the point of attack and covers the insect over,

leaving only a small aperture at the top; to the large closed galls which may contain either a single larval chamber or be many-chambered.

A very common and conspicuous gall on willows is the Pine-cone Willow Gall. (Fig 1). This gall is caused by a Gall-midge, *Rhabdophaga strobiloides*. The egg is laid in a terminal bud, which instead of elongating into a leafy twig enlarges into a cone-like structure, the scales representing undeveloped leaves.

On the twigs of various species of oaks one often finds the very hard spherical Oak Bullet Galls, which are caused by a Gall-wasp. Two other large and easily recognized galls on the leaves of the Red Oak are the

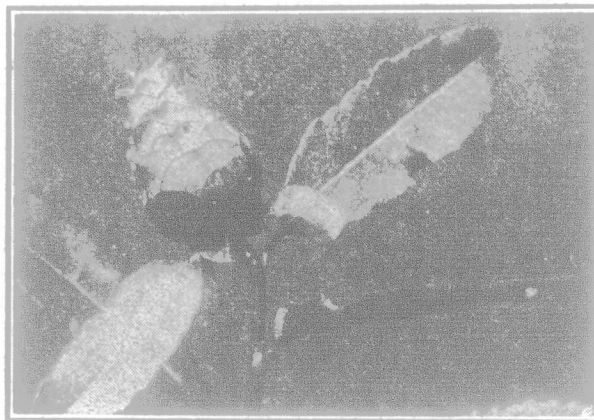


Fig. 1.—Pine-cone Willow Gall.

Large Oak-apple, which is hard and filled with a firm pithy substance with a larval cell in the centre, and the Large Empty Oak-apple, in which the larval cell in the middle is suspended by slender filaments. Both these galls are due to Gall-wasps.

Large irregular galls at the end of twigs of the poplar are caused by an aphid, *Pemphigus vagabundus*, and the gall is known as the Vagabond Gall. If the gall is cut open the little insects which cause it will be found inside.

The Sumac Tomato Gall is a large, hollow structure, red on one side, which is common on the underside of the leaves of the Staghorn Sumac. Inside are the aphids which bring about its formation.

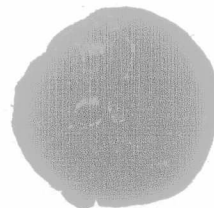


Fig. 2.—The Large Empty Oak-apple.

Two very common galls on various species of wild roses are the Mossy Rose Gall, which is a large mossy-looking structure, and the Spiny Rose Gall, which is spherical with long spines. Both these galls are the work of Gall-wasps.

On the Golden-rods there are several kinds of galls, two of the most conspicuous being the Spherical Golden-rod Gall, which is a spherical enlargement of the stem, and the Elliptical Golden-rod Gall, which is a tapering enlargement of the stem. The former is caused by a Gall-midge, the latter by a little moth.

A gall which is often very common on the leaves of the American Elm is the Cockscomb Gall, which may be recognized from its name, and which is caused by an aphid.

The Fun of Silo Filling.

By SANDY FRASER.

I guess we've pretty nearly all heard about the wee laddie who was compelled to do chores before he went to school in the mornin' and then some mair o' the same after he cam' hame at night, and what he said about it. "Mither", says he "this world is juist one darn thing aifter anither." And, judgin' frae my ain experience, we don't find that it changes vera much in this respect as we grow older. It's "one darn thing aifter anither" right tae the end o' this life on the airth, and then some, I haven't a doot.

What has got me tae talkin' like this is the fact that I've juist been filling silos again. That's anither o' these labor-savin' inventions that make ye get up at four o'clock in the mornin' and send ye to bed at the end of the day sae tired that ye forget to say guid-night tae the auld wumman. I'm no sayin' onything against the silo, mind ye. I'll be leavin' that for someone that has a better command o' the English language than I hae acquired. But I was juist thinkin' o' how I had spent the summer that is noo aboot drawin' to a close.

Beginning, say around the middle o' last April, it was a case o' hurry up wi' the seeding before the ground got too dry and whenever the coos an' pigs an' ither live stock let ye oot o' their sight lang enough to get yer horses hitched up to the harrows or the ploo. Spring is the time ye have to act the chamber-maid tae yer cattle, a'richt enough, as I heard a chap say once. For myself, I had half a notion, last winter, to move the telephone frae the hoose tae the stable. It wad hae saved quite a bit o' my time, tae say naething about my legs.

But aifter the seeding was finished I didna get a chance to mair than catch my breath when it was time to begin

cultivat' the corn. Before that was rightly done the haying was on and it's a short recess we ever get in this country between the hay an' the grain harvest. Some years they're sae badly mixed up that farmers lose track o' the time an' forget to gae to bed, at night. Talk about the ideal life an' the poetry o' the country dweller's existence. It's when ye get to drawing in hay an' grain by moon-light that ye come tae rightly realize the privileges o' living on the farm. It's so romantic, I heard a lassie say, once.

When the grain is all in the barn ye might think, that ye'd hae time to heave a sigh o' relief, but such is no' the case. It's now that ye have to get a real move on ye and hunt up a threshing machine or, in the event o' yer having one o' yer ain, getting men to help ye run it. The grain has to be threshed and then drawn tae the toon, maybe, for it tak's money tae pay the rent an' the store-bills, ye ken.

And noo, having got this load off yer mind, ye have room for anither, which is ready waiting' for ye one time from the middle o' September, on. And that's the filling o' the silos, that I mentioned a while back, the comparatively new job that has been invented to fill the happy farmer's cup tae overflowing.

As I said, I've juist been gettin' my annual experience in this connection an' it has been calling tae mind something o' the past and some o' the mistakes an' guesses we made an' the accidents we had in the days when the silo was mair or less o' an experiment. Advice was to be had on every hand and at bargain prices, but, when ye tried to mak' use o' a sample o' it that wasn't practical, it turned out to be dear enough. With ilka mistake ye got a whole bunch o' experience, of coorse, but it would be twelve months before ye could mak' use o' it.

I mind one silo that was built at the time I'm speakin' of. It was a stave silo, made from green lumber and good enough of the kind. But a neighbor chap, who thought he was something o' a silo expert, came around one day, juist when the silo was aboot completed and, after examining the thing and lookin' around a bit, he says to the owner, "It's too tight a'gether, Ye'll have to loosen up the hoops." And, if you'll believe me, they went at it and loosened up every hoop on that silo, wi' the natural result that aboot half the man's silage was spoiled that winter and all he could dae wi' it was to draw it oot an' spread it over the fields. If I mind right they weren't askin' ony advice, the next year, on that particular point.

Anither time someone had been readin' in the paper aboot t' being a good plan to pour water on the silage as it was being put intae the silo. It wad mak' better feed, an' a' that. Sae what did we dae but start an' draw water an' haul it up tae the top o' the silo wi' a rope an' bucket an' we kept the stuff guid an' wet, I can tell ye. The men around the cutting machine were up tae their ankles in mud, as the water started rinnin' oot at the bottom o' the silo after a while, but we kept at it till the auld tub was full. Gin there was ony guid in water we were gaen' to hae the benefit o' it. We found oot later, however that all we had got for oor trouble was the muscle we had developed, wi' a few blisters on our fingers, thrown in for guid measure.

And then we had oor trials wi' those auld-fashioned "carriers" that ye can still see, here an' there, at the present time. It took the best part o' a day's hard work to put them up and when one o' the chains would happen to break the whole thing was liable to land in a heap on the ground and the work was all to be done over again. Wi' perhaps a couple o' dozen new "slats" to make, to replace the ones that had been ripped off in the accident.

The maist o' the orthodox farmers in the country noo use the "blower" as a means o' getting their corn intae the silo, but, noo an' again, even they hae their troubles. Maybe the corn is soft an' the pipe gets "plugged" an' has to be taken apart, an' that sort o' thing. And ilka year we hear o' some 'absent-minded beggar' tryin' to feed a pair o' wireliers or a monkey wrench into the machine.

But the principal troubles seem to be in connection wi' that blower pipe. I mind o' a little scrape I got into one time when we were "setting up" at one o' the neighbors. We were putting up the pipe in sections an' I was on top o' the silo wi' one o' the short links in my hand, ready tae pass it doon to the chap on the ladder who was bolting the thing together. By bad luck the piece o' pipe I had slipped oot o' my hand juist as I was gettin' ready to pass it doon tae the ither fellow and it landed, fair an' square, over his heid. He had an auld felt hat on or I'm thinkin' I'd hae cut the ears clean off him. As it was the pipe stuck sae tight on his heid that he coudna get it off till he made his way to the ground and got help. I was past helpin' him or onybody else, for I hae an unco' way o' laughin' when I see anither chap in ony scrape like that. All I could dae was to stay up where I was till the fellow had cooled off a bit, he thinkin' I had played him the trick on purpose. And some o' the boys around were askin' him if he didna ken that stove-pipe hats were gone oot o' style these days.

But, takin' it on the whole, there's no' vera muckle pleasure in the silo-fillin' business. A chap has to hae an uncommon sense o' humor tae enable him to treat it as a joke.

Watered stocks, and industries not adapted to the country, should be left out of consideration when the tariff is being revised. There is only one kind of watered stock that can be figured as a real asset to the country, and that kind is found in farmers' stables.