

MICHIGAN AGRICULTURAL COLLEGE
EXTENSION DIVISION

R. J. BALDWIN, DIRECTOR

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EXTENSION SERIES

MARCH, 1918

SUGGESTIONS TO BOYS WHO WISH
TO PREPARE FOR FARM
WORK

BY

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Director of Short Courses

"I call upon the able bodied boys of the land to turn
to the farms and make certain that no pains and no
labor is lacking in this great matter."

—President Wilson.

EAST LANSING, MICHIGAN

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EXPORTS OF WHEAT AND WHEAT FLOUR	
Year	Quantity
1870	1,000,000
1871	1,200,000
1872	1,500,000
1873	1,800,000
1874	2,000,000
1875	2,200,000
1876	2,500,000
1877	2,800,000
1878	3,000,000
1879	3,200,000
1880	3,500,000
1881	3,800,000
1882	4,000,000
1883	4,200,000
1884	4,500,000
1885	4,800,000
1886	5,000,000
1887	5,200,000
1888	5,500,000
1889	5,800,000
1890	6,000,000
1891	6,200,000
1892	6,500,000
1893	6,800,000
1894	7,000,000
1895	7,200,000
1896	7,500,000
1897	7,800,000
1898	8,000,000
1899	8,200,000
1900	8,500,000

INTRODUCTORY SUGGESTIONS

*To the young men of Michigan who enroll
in the United States Boys' Working Reserve
and all who enlist in the cause of food production*

The United States Government says: "Food will win the war." Food production is limited by the unumber of "hands that can be put to the plow." The boys of America must help in taking the places of the men who leave the fields for the battle lines of Europe. Our boys of Michigan will not hold back, but will enlist in the cause of agriculture with no less patriotism and courage than their brothers who serve with the flag in the cause of democracy.

Many of you will find the things of the farm entirely new. You will need preparation, especially in regard to the tasks to be done first and equipment to be handled at the start. This circular is prepared for the purpose of helping you to get ready for this work. Only a small number of essential things can be given here and the subject of agriculture is very large. The more you know about farm things the more useful you will be. Learn from those who have lived on a farm. Your teacher, the agricultural agent, retired farmers, impliment dealers, liverymen and others who have horses will be glad to help you.

When you reach the farm, learn its equipment as soon as you can. Learn the names of things and where they belong. If you use a tool, return it to its proper place in a clean condition. Form the habit of closing gates and doors. One mistake may permit stock to damage crops more than your services are worth. Win the confidence of the farmer by your interest, attention, and ability and he will be your best teacher.

R. J. BALDWIN,
Extension Director.

YOUNG MEN OF MICHIGAN

Our United States is fighting for her existence as a free nation. In the present world shortage of food and labor your country is depending on you to help to produce and harvest the crops. The United States Boys' Working Reserve was organized so that every young man from sixteen to twenty-one years of age, physically fit, might take his place in the ranks of the army of food producers, do his part and be recognized by our government for his service. Every bushel of wheat, every load of hay, every ear of corn, every ton of beets and pound of beans is ammunition for our army and life for our boys "over there."

This booklet, presented to you by the Michigan Agricultural College, is prepared to help you with the first fundamental things you will encounter on the farm. If you will fight on the farm as hard as our older boys will fight with Pershing, America will not go hungry next winter and the boys on the battle front will know we are back of them to the last ditch. Over twenty thousand Michigan troopers depend on you. We shall not fail them.

CHARLES A. PARCELLS,
Federal State Director U. S. Boys' Working Reserve,
922 Ford Bldg., Detroit.

FORKS AND SHOVELS

A number of different kinds of forks and shovels are found on every farm. The city boy, to be useful, should know the common names and uses of these tools. Other tools and implements with which you should be familiar, may be found in the hardware stores or implement dealers.

FORKS

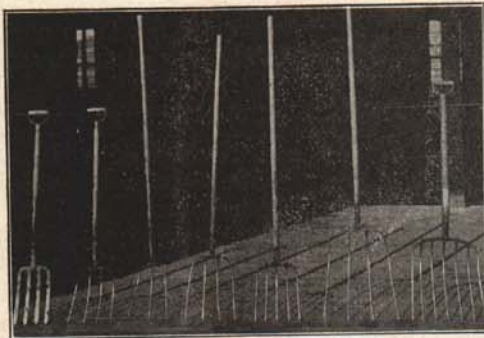


Fig. 1—Forks

Learn to recognize the forks shown in Figure 1 and become familiar with their uses. From right to left they are as follows:

Silage Fork—Used in scooping ensilage or potatoes.

Barley Fork (large four-tined)—Used for carrying straw, pitching beans, and handling other bulky fodders.

Five-Tined Fork—Used for pitching barnyard manure and digging potatoes.

Four-Tined Fork—Used for pitching coarse manure, carrying straw and bedding horses or other stock.

Three-Tined Fork—Used for pitching hay and grain in the bundle.

Short-Handled Four-Tined Fork—Generally used about the barn for bedding stock and cleaning out stables.

Root Fork—Used for any field work that requires the lifting of roots or tubers from the soil.

SHOVELS

In Figure 2 the shovels from right to left are as follows:

Scoop Shovel—Used for handling ground feed or grain in the bin.

Stable Shovel—Used for cleaning out stables, shoveling snow, etc.

Square Spade—Used for digging holes in close-grained soils.

Round-cornered Spade—For use with loose-grained soils or in shoveling gravel.



Fig. 2.—Shovels

Short-Handled Shovel—Used for shoveling dirt, concrete, plaster, or other supplies of that nature.

Post-Hole Digger—For digging post holes or other excavations of small diameter.

Pickaxe—Used for breaking up hard pieces of soil, gravel or food material.

Crowbar—Used for leverage work of any kind.

CARE AND HANDLING OF WORK HORSES

The following pictures illustrate good methods of caring for the farm stable, harnessing and unharnessing horses, and hitching teams to various common farm vehicles and implements. Accompanying each picture are brief explanations and directions. Each inexperienced young man who expects to become a useful farm laborer should be familiar with these simple operations. His ability to perform these simple tasks readily and well, will win the farmer's confidence. The farm operator himself can best instruct the new man in the handling of the more difficult farm operations. *Learn these few things well. The farmer will teach you the rest.*

CARE OF THE HORSE IN THE BARN

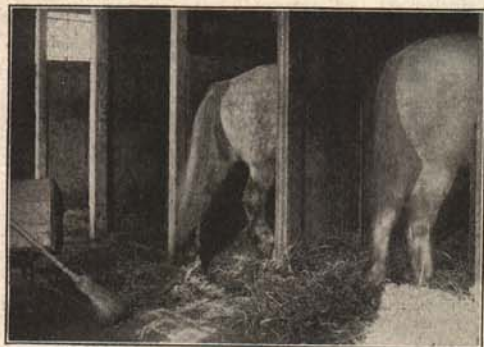


Fig. 3.—Cleaning out Stalls

Figure 3 shows three stalls in the process of being cleaned after the night's use. The one to the right has not been touched. The second one has the manure and straw separated. In the third stall the straw has been thrown up under the manger, the manure thrown into the wheelbarrow, and the floor neatly swept. The five or six-tine fork, barn shovel or scraper and broom are usually used in this work. *Save the straw.*

GENERAL DIRECTIONS

Be quiet and kind. Speak to the horse before entering the stall or when passing close behind. Avoid all quick motions when in front that may frighten the horse and cause him to back quickly. Always enter the stall on the left side of the animal. Be patient.

Cleaning or currying the team is an important daily task usually done just before leaving for the night and before harnessing in the morning. (Fig. 4). Begin currying at the head and work backward and downward. Always follow the curry comb with the brush. Brush out tail and mane thoroughly, getting out all the straw. After currying, rub the horse thoroughly with a cloth. *When working on the left side of the horse, the curry comb is in the right hand; the brush in the left. CAUTION! Do not use curry comb severely on rear part of belly, flank, or legs.*



Fig. 4.—Currying the Horse

LEADING

In leading a horse, walk on the left side, grasping the halter with the right hand, and holding the remainder of the rope with the left as shown in Fig. 5. Keep about even with the horse's head at all times. *Always keep the horse under control. CAUTION: This is for broken and gentle horses. Special care must be taken with colts.*



Fig. 5.—Leading the Horse



Fig. 6.—Tying the Horse

TYING

The proper length of rope in tying a horse to a post or in the stall is shown in Fig. 6. Allow enough rope for freedom of the head. Tie a safe knot that can be easily untied. *Do not give the horse too much rope, about the length of your arm, depending on height of manger and the size of stall.*

BEDDING

This illustration (Fig. 7) shows a stall well bedded. Arrange the straw or other bedding so as to provide a good, clean bed to lie on. Fasten a chain or rope behind before leaving the animal for the night. *Do not pull the bedding back behind the horse. Remember, always be quiet and kind, but firm in commands to the horse. Speak when entering the stall or when immediately in the rear.*



Fig. 7.—Bedding the Horse

PARTS OF A WORK HARNESS

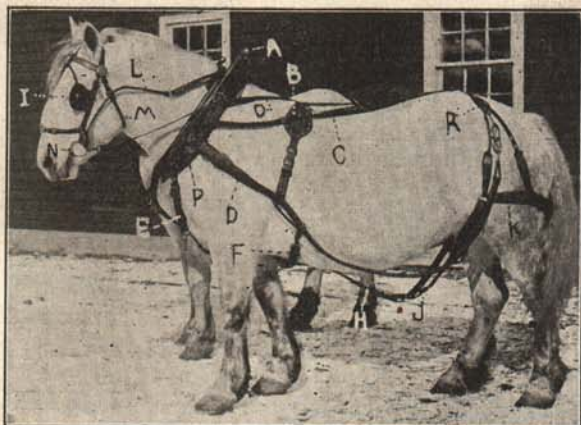


Fig. 8.—Work Harness

Learn the names of the principal parts of the harness. Harnesses are not all alike, but the names given below are of the essential parts most commonly used.

BRIDLE		HARNESS	
I Blinders	A Hames	E Breast strap	K Breeching
N Bit	B Backband	H Pole strap	P Collar
M Throat latch	C Backstrap	J Holdback or	H Hip strap
L Check rein	D Tug	quarter strap	

HARNESSING THE HORSE



Fig. 9.—Harnessing the Horse

Picture No. 9 shows the proper way to place the harness upon the horse. First, fit the collar to the horse's neck. The collar ordinarily is open at the top and is placed by sliding on from below. Next, grasp the left hame of the harness with the left hand. Run the right hand through under the hip straps and under the backband, grasping the right hame at its middle point. Place the harness on the horse's back, each part in its place. Place the hames on the collar and fasten the hame strap below. Snap the holdbacks through the pole strap and buckle the bellyband under the pole strap. Take off the halter, placing it in the manger and have the bridle ready to put on immediately. Grasp the top of the bridle with the right hand. Insert the bit into the mouth with the left, pulling the top of the bridle

over the ears at the same time. Fasten the throat latch. *Horses usually stand in the barn in the same position as they are driven. Get the right harness on the right horse.*

HITCHING THE HORSES TOGETHER

A study of the accompanying pictures (Figs. 10, 11 and 12) will show the line arrangements for various teams. Always place horses where they belong as they are ordinarily accustomed to being driven in the same place. The largest horse is usually on the right. Adjust lines so that the horses will drive and guide evenly.

THE TWO-HORSE TEAM

Fig. 10 shows the cross straps and lines fastened to the horses' bits. The cross strap is always snapped into the bit of the other horse. *See that the lines are not twisted.*



Fig. 10.—Two-Horse Team



Fig. 11.—Three-Horse Team

THE THREE-HORSE TEAM

In the arrangement for the three-horse team, the lines are fastened to the outer bits of the outer horses, as in Fig. 10. The cross lines are snapped with the bit of the center horse (Fig. 11). Adjustable straps fasten the bit the inside bits of outer horses, cross each other over the back of the center horse and fasten in the buckles of the opposite line.

THE FOUR-HORSE TEAM

Four horses properly hitched together for a four-horse team are shown in Fig. 12. The lines are fastened to the outer horses as in Figs. 10 and 11. The cross straps fastened in the outside bit rings of the two inner horses. Adjustable straps fasten the bit rings of the two inside horses to each other and to outer horses. *Have these straps the same length.*



Fig. 12.—Four-Horse Team

HITCHING THE HORSE BETWEEN THILLS

The following illustrations show operations required in hitching and unhitching one horse from a wagon, hay rake, weeder, buggy, etc. (Figs. 13, 14 and 15.)

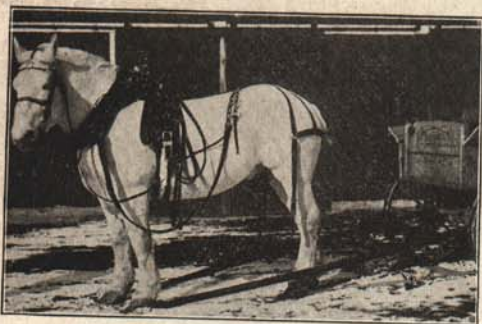


Fig. 13.—Placing the Horse

Back the horse between the thills. If the horse is especially nervous or fractious, raise the thills from the ground to prevent their being stepped upon and broken. (Fig. 13.)

The next operation is the placing of the thills through the thill straps, first on one side and then on the other. Take down the lines from the back pad. (Fig. 14.)

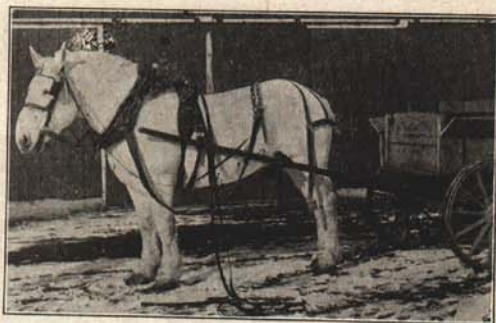


Fig. 14.—Partly Hitched



Fig. 15.—Ready to Go

Fasten the tug at the proper length to prevent the horse from hitting the vehicle from behind. Place holdback straps through the hook or strap on the under side of the thill; wrap it two or three times around the thill, according to the length of the tug, and buckle it in its place. *Be sure that all fastenings are secure and in their right place before taking up the lines to drive.*

UNHITCHING

The order of operations is reversed for unhitching. Unhook the holdback straps, do up the lines in the back saddle, unhook the tugs and lower the thills to the ground. Lead the horse out from between the thills carefully.

HITCHING A TWO-HORSE TEAM TO A WAGON

These pictures present the order of operations in hitching and unhitching two horses from a wagon, cultivator, manure spreader, or other two-horse implements. (Figs. 16, 17, 18.)

If the horses are not hitched together, lead each one to its place with the tongue between them. When fastened together, drive the team so that one horse steps over the tongue, taking care that he does not step on it. Fasten the lines so that they will be out of the way but convenient to get hold of. Fasten neck yoke to pole strap and breast strap.



Fig. 16.—Fastening the Neckyoke



Fig. 17.—Partly Hitched

Lift the tongue from the ground and place the end of it through the ring in the neckyoke. Fasten the tugs, taking care to keep them straight. (Fig. 17.)

DRIVING

In driving always keep the lines well in hand and held firmly. Keep the team under control. Never jerk the horses. The command for going ahead is "get up" and for backing is "back up." Many drivers, when wishing the horses to turn to the left, say "haw," and to the right, "gee." Horses are accustomed to experienced drivers, and patience and care must be exercised while they are getting used to you while you are learning to handle them.



Fig. 18.—Ready to Go.

UNHITCHING

The order of operations for unhitching: Unhook the tugs and fasten them to the hooks on the harness. Lower the tongue to the ground and unfasten the neck yoke; place the neckyoke in the wagon or other place where it may be readily found; lead the horses a few steps ahead so that they will not step on the tongue.

HITCHING MORE THAN TWO HORSES

In hitching three or four horses to an implement that has a tongue, follow the same order of operations as for hitching a two-horse team to a similar implement. For implements without a tongue, the only operation necessary is the fastening of the tugs so that each horse will draw his share. It is very important to adjust the length of the tugs so that the horses' heels will not touch the single-trees while at work. In driving three or four horses, special care must be taken in backing and turning corners that the horses do not get their feet over the tugs or otherwise become entangled.



Fig. 19.—Three Horses Hitched to a Plow

The three-horse evener shown in Fig. 19 is a combination of a two-horse evener and an additional single-tree fastened to a third bar.



Fig. 20.—Four Horses Hitched to a Four-Section Drag

The four-horse evener is a combination of two two-horse eveners fastened to a third bar. *Special care must be taken in driving a four-horse team to make sure that each horse pulls his share. CAUTION!!* Great harm is sometimes caused to horses by having the drag pulled onto them when making a sharp turn. With reasonable care four horses on a drag can

make a sharp turn without skipping any ground and without lifting the drag from the ground. Keep your lines tight and your horses under control when making the turn.

UNHITCHING AND UNHARNESSING THE HORSE

Before watering the horses and placing them in the barn, do up the lines in the breeching, always on the inside as shown in Fig. 21. Unsnap the lines and cross straps and release the check rein. Lead the horses to the watering tank and allow them to drink. When horses are very hot, only a moderate amount of water should be given them. Lead the horses to the barn and place them in their usual stalls.



Fig 21.—Doing Up the Lines



Fig. 22.—Taking Off the Harness

UNHARNESSING

Unfasten the throat latch and remove the bridle. Put on the halter immediately. Unfasten the quarter straps, belly band and hame strap, working *always on the left hand side of the horse*. Grasp the hame with the left hand, the hip straps with the right and pull the harness from the horse. Hang it upon its usual hooks.



Fig. 23.—Cleaning the Collar

CARE OF HORSES' SHOULDERS

Remove the collar and carefully wipe the under side of it with the hand or a cloth. This will prevent sore shoulders. *Always clean the collar on taking it off, because if left to dry, the dirt will then have to be scraped off and the leather will be injured.* If the horse's shoulder appears irritated, bathe it in a solution of salt and water. The horse should be brushed and curried before being left for the night.

The driver should always keep in mind that the comfort of the horse is an important item in maintaining effective work. Their shoulders are subjected to great wear and should be protected from all irritation possible.

On starting the day's work with the team, remove all the hair of the mane from under the collar and place it over the check rein. Do this several times a day, as these long hairs often work under the collar where they are continually pulled, causing the horse to fret from the pain. (Fig. 24.)



Fig. 24.—Removing the Mane from Under the Collar

Now and then during the day, lift the collar from the horse's shoulders for a moment to allow the air to cool them; also wipe any hairs or other accumulations from the collar where it rests against the shoulders. (Fig. 25.) *The rate of work depends on the nature of the work. Horses are never trotted in field work. When performing real hard work a team should be allowed to rest occasionally, but only for a short time.*



Fig. 25.—Cooling the Shoulder

PARTS OF TWO COMMON TOOLS; THE PLOW AND THE ONE-HORSE CULTIVATOR

The names of parts of two common farm implements are given here merely as a beginning in learning the language of the farm. Many other tools and more complicated machines will be found on the farm and should be known. The farmer will be your best teacher, but if you can learn of these things before going to the farm, it will be a great advantage. Your agricultural teacher, the county agent or the nearest implement dealer will be glad to help you.



Fig. 26.—Parts of a Plow

a—Handles
b—Beams
c—Evener
d—Clevise
e—Whiffletree

f—Coulter
h—Jointer
i—Mouldboard
j—Plowshare or point
k—Landside

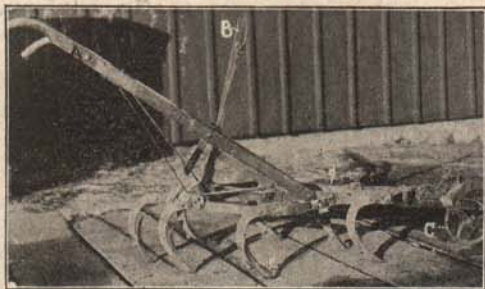


Fig. 27.—Parts of a One-Horse Cultivator

- | | |
|-------------------|---------|
| a—Handles | d—Frame |
| b—Adjusting lever | e—Tooth |
| c—Wheel | |

GREASING A WAGON

Always use plenty of oil and grease. It is cheaper than steel. After using any implement that works in the soil such as a plow, cultivator or drag, always place a coat of grease over the working surfaces. This will prevent rust and make unnecessary continued scouring for good work.



Fig. 28.—Taking off the Burr.



Fig. 29.—Greasing the Wagon

A wagon or buggy burr always unscrews to the back as indicated in figure 28. This prevents the burr from running off when the wheel goes ahead. *Remember the direction. It will save work.*

After the burr is removed, pull the wheel part way off so that the wearing surface of the axle is exposed. Wipe off the old grease with a rag and apply a good layer of new grease. Replace the wheel and screw the burr tight enough so that it will not come off when the wagon is moved backwards.