CONDITIONS OF SUCCESS IN AGRICULTURE.

BY ELMER BALDWIN.

In remarking upon the condition necessary to success in agriculture, it must be apparent that in the time allotted me, I can only touch upon the most salient points. An exhaustive dissertation on this subject would fill a volume, and in selecting my topics I shall doubtless leave others equally important untouched.

Agriculture is both a science and an art. As a science it embraces much of the subject matter of all the natural sciences. Most men now admit that the world is governed by laws fixed and immutable. The most minute operation in the laboratory of nature is governed by laws as fixed and certain as those that guide the planets in their orbits.

The heat of the sun's rays lifts the vapor from the ocean's surface. The same force puts the air currents in motion which bears the vapor over the continents, and meeting cooler currents or impinging against the mountain crests, descend in dews and rain, clothing with verdure the otherwise barren lands, penetrates the earth, issues in springs and streams which descend from every hill and table land and flows in mighty Mississippis and Amazons back to the ocean to be again sent on its endless round of life-giving usefulness. How nicely balanced and connected are the laws that produce such wonderful and beneficent effects; strike out any one of the series and the whole is destroyed.

"From nature's chain whatever link you strike
Tenth or ten-thousandth breaks the chain alike."

These considerations can but impress us with the truth that in dealing with nature as the farmer does he should know her behests and not violate her laws. So far as we have ascertained the laws that govern the production from the soil of what is needed to supply the wants of man, or in other words the conditions necessary for their production, we have a science of agriculture. Beyond and deeper lie the other truths that when ascertained and arranged will perfect a science yet in its infancy. The laws that lie at the foundation of this or any other true science are inexorable and any attempt at agricultural production in violation of those laws will prove a failure.

But the disturbing causes are so numerous, the combination of climate, of soils, of seasons, the varied changes of culture adapted to each of those as well as to the numerous varieties of crops are so many considerations that ramify and spread almost infinitely, that
an incalculable amount of study and investigation will be required by some of the greatest minds to master it all. But we cannot doubt that truth lies at the bottom and that it will be reached.

From the earliest period of our earth existence, through all the periods of geology time, cause and effect has followed in regular succession and will continue to do so till time shall cease. Knowing the needed cause the desired effect can be readily reached.

The first requisite for agricultural success is to know nature’s requirements and to conform to her imperious demands. Because we cannot know all the truth is no good reason why we should not conform to and use that we do know. Science has taught us much but practical experience has taught us more.

The magnitude and importance of scientific agricultural education has not been properly appreciated, but cannot be overrated. Science has taken immense strides in some directions, but has only partially investigated this branch of her wide domain, one that more than all others supports and sustains the world. One that is destined in its development to produce with more certainty and in greater variety and profusion all that supplies the physical wants of the world and is also destined to lift a burden from the necks of the toiling millions. In all the professional and mechanical pursuits a thorough knowledge of the science and mysteries of the calling is justly deemed essential to success. And a like preparation is more essential in the farmer’s calling, for agriculture embraces more of science and more of nature. By the investigation of laws which forms the foundation of his pursuit, and viewing the wonder-working powers by which nature works out her designs, he will learn that his pursuit is the noblest of earth, that among all the pursuits of men the farmer lives closest in communion with nature; his whole life is an effort to meet her demands. And when as a class he shall become thoroughly educated and divested of the superstition and absurd traditions inherited from ages of ignorance, and with enlarged capacity and the eye of a philosopher gaze on the panorama of wonders which nature’s laboratory constantly unfolds to his view in the pursuits of his occupation, he will respect himself and love his calling, two most important elements of success.

For the purpose of showing the importance of a knowledge of scientific truth, and also the prevalence of crude and uncertain theories acted upon even in the most rudimentary processes of agriculture, I will refer to one or two subjects only.

It is a generally admitted truth that to prepare the soil for a cereal or other crop it should always be plowed or otherwise mellowed, yet there are soils that would be injured by plowing. When the waters have receded from the delta of the Nile the seed is cast upon the still wet and oozy surface and a luxuriant crop is reaped. Notwithstanding such exceptions the necessity for plowing is almost universal. But how deep to plow is a question that has never been settled, and never can be except in its application to each particular soil. The sweeping theory that for a century has been advanced by most writers on agriculture that deep plowing was essential to success, is almost universally discredited. A soil exhausted by continual cropping, that has a subsoil rich in marl, alkali or other mineral fertilizers, would be benefited by deep plowing to bring them to the surface
and make them available. Our common prairie soil is found to be seriously injured by too deep plowing, bringing dead and inert soil to the surface and throwing the rich surface soil pulverized by the rains and frosts, aerated by the atmosphere, and rich in humors from decayed vegetation, to the bottom of a deep furrow where the roots of the crop seldom reach it. And here we may well start the question whether most soils are not injured by inversion as with the common plow, and whether it is not better as many gardeners and amateur cultivators now practice, to stir and pulverize the rich surface soil and leave it there to support the delicate germs and rootlets of the springing plants.

Agricultural authorities tell us to cut wheat when it is in the milk (a very dangerous doctrine); now this is a very indefinite time. At one stage the kernal contains a thin milky fluid, a few days later it contains a milky colored paste, and later still it contains flour. If cut when in the first named condition the yield of flour will be lessened from one-third to two-thirds; in the second the loss will be less but still considerable, and if cut in the third condition a full yield in quality and quantity. There is nothing lost by letting it ripen fully, except the straw is more bulky and harsh to handle, and the grain scatters some in handling. Now scientific analysis of the surface and subsoil and clear observation will determine the depth to plow any soil, and an analysis of wheat cut at different stages would determine its value at each stage. Such truths once established would be a better condition of success than hearsay or tradition. Agriculture is also an art. Manual dexterity that can only be obtained by long practice, is as essential in this as any other pursuit. The old time sickle, scythe and cradle were nearly useless in the hand of a novice. The Yankee axe that in the hands of experts has led the way in the civilization of a continent is an awkward and clumsy instrument in an inexperienced hand. The hand that scatters the various seeds, that guides the plow, the cultivator, the reaper and even the fork and hoe, must not only be guided by intelligence, but needs that dexterity learned only by years of practice.

The pruning of fruit trees, gathering and curing of crops, garden and fruit culture, rearing and fattening of animals, can only be successfully done by a practiced and experienced hand. I am aware it has been said, and often with truth, that a ritual merchant, mechanic, or professional man make quite successful farmers. If they do they are careful to copy after and imitate some able and experienced farmer who possesses the requisite knowledge and experience.

A physician of my acquaintance presented his bill to a farmer and among other items were several charges for medical advice. The farmer also presented his account with several charges for advice in farming, although regarded as a joke it was really a proper offset to the charges. Knowledge of farming costs as much and it is as valuable as other knowledge. It has always been admitted that a diversified agriculture could not be successfully prosecuted by the labor of slaves; intelligence not only must direct but must wield the implements.

To be successful the farmer should thoroughly know his calling scientifically and practically.
It is true many successful farmers know nothing of science but rely upon traditional knowledge, yet that knowledge is science, as is shown by its success. It matters little how a truth is learned if we know it to be truth—there is, however, this difference: science tells you a truth and tells you why—tradition never assigns a reason, or if it does, a very uncertain one. Superstition and absurdity are more or less mingled with all traditional knowledge.

And I may as well here as elsewhere refer to a disturbing element that has even stood in the way of agricultural improvement and has prevented the formation of a reliable science, and entails immense losses upon the world. The dark cloud of ignorance, which through the long ages of the past has rested like a pall on the tillers of the soil, has not all been dissipated by the light of modern intelligence. Absurd theories of supernatural stellar or luna influences still usurp the place of true knowledge, and prevent the discovery and reception of truth.

I will name a few of those which for the honor of our common humanity I could wish did not exist. I knew a man of full average intelligence who invariably caused his seed corn to be passed through a knot hole in a board to prevent the grubs from eating his growing corn. I have known him to keep his hands idle for hours on a pleasant working day while his son was putting the seed corn through that important process.

I was once planting my potatoes at the first opportunity after the ground was in fit condition in the spring, (which in our dry climate is the best time) when a neighbor remonstrated and said my crop would be a failure; he should not plant his for three weeks, as that would be the proper time in the moon’s age. He did so, and in the fall bought his potatoes of me, as I had a good crop and he had none. The succeeding season he did the same with the like result, and yet he persistently insisted that his rule was the best.

In conversation with a neighbor, and viewing the new moon, he says the horns point upward, they will hold water, it will be a very wet moon. I said, do you believe it? He replied, yes, I have observed it for forty years and never knew it to fail.

The next evening in conversation with another neighbor, he said the horns point upward, they will hold all the water, it will be a very dry moon, that he had observed it for forty years and never knew it to fail. Here were two honest, truthful men who permitted an absurd superstition to have more influence than the evidence of their own senses. Both believed their respective theories, and I have no doubt one was just as true as the other. It is said pork butchered in the new of the moon will smell when cooking, but butchered in the old of the moon will shrink.

Fruit trees will be as many years coming to bearing as the moon is days old when they are set.

Manure spread on meadows in the new of the moon or when the horns point upward, will rise with the growing grass and be on top at mowing time, but spread when the moon’s horns point down it will remain close to the ground. Such notions are not confined to the ignorant. I heard one of the wealthiest farmers in Illinois, and one who occupies a high social position, say that corn planted in the new of the moon would have few ears but large stalks, but planted in the
old of the moon would yield heavily even if the stalks were small. These examples might be multiplied almost indefinitely. The season and condition of the soil indicates the time to plant. This is the golden opportunity, and the improvement of that opportunity is the condition of success. If that is permitted to pass unimproved, waiting for the occult influence of some sign of the zodiac—pointing of the moon's horns, the result of a conclave among the Gods of Mount Olympus, as indicated by the entrail of some beast, the whispering of Ossian's ghosts, or the motion of a cat's paw in wiping her face—failure of or diminished success must be the result.

Where the cause is unknown the result is ever ascribed to some imaginary one by fallible human judgment. Such has been the case through all time.

Collumella, a Roman writer upon agriculture, directs that when oxen return weary and heated from the field, a little wine should be poured down their throats, and if they refuse to drink, the boy that drives them should whistle, and after a reasonable time they will drink. Now, there is some correct reasoning in this. If wine is good for a man it is safe to infer it is good for an ox, and as the instincts of the ox will never permit him to drink water when heated, time must be given him to get cool and the whistling will do no harm. The error is in ascribing such influence to the boy's whistling. The old deacon when his oxen refused to pull got in a passion and used his gad unmercifully, finally went aside and prayed for half an hour, and then spoke kindly to his team and they took the load along promptly. The praying was good, but like the boy's whistling, it gave time for the passions of both the deacon and his oxen to cool off.

There is no pursuit in civilized society that requires more diversified knowledge, more science, more practical experience and observation, or more sound judgment than that of the farmer. There is no other pursuit that has so many branches or is so diversified in its details. No individual can expect to master all its branches and comprehend all the details of each. In fact it calls for a knowledge of the great arcana of nature. The germ, the birth, the growth development and maturity, the reproduction, succession and full natural history of both animal and vegetable life. The genius that can measure the parallax of a fixed stone or weigh the comet's substance, can here find fit subject for its powers. Yet fools confidently step in where angels fear to tread.

It becomes a necessity that to be successful the farmer must select a reasonable number of the multitude of branches or pursuits embraced under the pursuit of agriculture. To make one or two branches a speciality has not generally proved successful unless some peculiar local condition require it, but a reasonably diversified industry is doubtless the best, and in selecting reference should first be had to the necessary connection or dependence of them upon each other. The production of the cereals should be counted with annual husbandry. The straw, corn and stubble can be utilized to feed the stock while the manure from the stock is a necessity to sustain the fertility of the soil. The dairy is a natural aid to the pork crop. Sheep of all animals are the best fertilizers. Another object in selecting should be to distribute the labor of the farm through the year
so as not to require extra help at one time and be out of business at another.

Another important consideration is to produce articles fitted to the market. If the market is distant coarse grains and heavy bulky articles should not be raised except for consumption on the farm. All such can be converted into beef, pork and wool or something that will not be absorbed in the cost of transit. But the most important matter is to adopt a rotation of crops in connection with animal husbandry that will preserve the fertility of the soil. The soil is the farmer's bank and if he does not keep his deposit account good his drafts will not be honored. The cereals and all crops that mature the seed are exhausting crops and if constantly raised without manure or rotation with crops not exhausting will deteriorate and ruin any soil. The yield of corn on the prairie farms of Illinois has been reduced by forty years of constant production fully fifty per cent. Another term of like duration and like practice will render the soil nearly worthless for the production of corn. Crops which do not mature the seed, as the root crops and grasses, are the renovating crops, and with the manure made on the farm should preserve the fertility of the soil. It costs no more to raise a good crop than a poor one and the balance sheet of a farm in a high condition of fertility will show a marked contrast with one from an exhausted one.

A recent English writer on political economy kindly volunteers the advice that as this country has a rich virgin soil we should do nothing but raise the cereals, export them and let England do the manufacturing. When our farmers understand that when they do nothing but raise and export corn and wheat they are selling the reality of the farm and reducing themselves and their country to poverty, they will be slow in taking the Englishman's advice. If such a course is pursued the rich soil of the prairie region, like the cotton fields of the south, must eventually be abandoned for some other virgin soil, if such can be found. One of the most vital questions in farm economy, and one of all others not to be disregarded, is the preservation of the fertility of the soil.

There are many minor branches of farm production that, though small in amount individually, yet in the aggregate constitute an important element of success. The garden, the dairy, the fruit, the poultry, with many others can be more or less pursued according to the number, ages and circumstances of the family. Each individual should have their appropriate department and be held responsible for its proper care. Such care becomes a most excellent discipline and calculation of the young, and it is from those thus trained our most successful agriculturists are produced. These considerations apply with equal force to both sexes, and the farmer's daughter who is reared without such discipline, without business care and neither learns nor practices any branch of farm or household duties, should never aspire to the honorable position of a farmer's wife; in fact such a one is unfit to be any one's wife. Those minor pursuits can be made to pay the family and farm expenses and thereby save intact the avails of the staple crops. But if the grain, beef, pork, wool or other staple crops are to be drawn upon for all the necessaries and little luxuries which persons living in idleness are ever aspiring to,
the amount will soon be exhausted and the year's earnings spent in the getting.

Having determined upon the branches of agriculture to be pursued, let the plan adopted be strictly adhered to; it may be true that a change in one of the number may be found desirable, but without good apparent reasons it should not be done. There is scarcely any policy more fatal to success in farming than continual change in the branches pursued. Prices of particular productions may vary from year to year and some one may bring but a meagre price, but this fact of itself will cause it to bring a higher and perhaps a high price the next or some succeeding year. The time of low prices of stock or any article is the best time to invest, and the average price of an article is better than can be got by changing for another. Those who change their business on account of the prices of produce are pretty sure to be in the market when prices are low; present high prices, stimulate production, and bring down prices for the succeeding crop. The farmer should keep a steady hand and learn to labor and to wait; a persevering persistent course is what wins; the steady constant growth of his crops, his stock, his timber, his fruit are all so much profit not handled now in cash but equally valuable, as are all valuable permanent improvements on his estate.

The best breeds of stock are most profitable. It costs no more to keep a good animal than a poor one and the returns are much greater. A herd may be rapidly and cheaply improved by introducing from the best herds of cattle, hogs or sheep, thoroughbred males, and by breeding from no others in a few years the herd will be practically pure blood. Farmers of moderate means may combine for such a purpose. Whatever breed is selected should be continued; continual crossing is bad policy.

Dealing in fancy stock at fancy prices had better be left to men of means and experience and if they can sell to each other and all get rich no one will complain, but it should not be regarded as legitimate farming.

The wilder the speculation the more certainty of the introduction of improved animals, and the greater benefit to the public, though present prices must ultimately burn some of their fingers or all former experience tells for naught.

Having provided for the improvement of the herd, keep only as many as can be well kept. A poor animal is always unprofitable, and a fat one is not always profitable, that depends on the cost; judicious feeding is that which produces the best results at the least cost. There is no branch of farming requiring more thorough practical experience and careful attention than this.

The immense improvement in farm machinery during the last quarter of a century, marks an era in agricultural progress.

It is only at a comparatively modern date that the forces of nature have been substituted for human muscle—the drippings from the steam pipe for the sweat from the human brow. The force of a matchless power now bears the deeply freighted steamboat against the current of the Mississippi, where men once toiled for weeks to force the little flatboat against that river's almost resistless flow.
The spinning jenny and the power loom have taken the distaff and shuttle from the hands of the toiling matrons, and have attired the world in cheap clothing.

And finally in the progress of time the almost forgotten tillers of the soil have been reached—the scythe, the cradle, and the flail have dropped from the farmer's hand, and machinery moved by animal or steam power supplies their place.

None but those whose lives were spent in wielding the discarded implements can appreciate the change or duly estimate the amount of hard grinding toil once the farmer's lot. Those achievements are the triumph of mind over matter and the greatest glory of our age.

Nor is the end reached yet. Other and greater labor-saving inventions are sure to follow in quick succession till the farmer's occupation will consist in directing with an enlightened intellect and a practiced hand, these automaton laborers rather than in the old time unending toil. This will be a glorious consummation when mind and not muscle alone shall be the presiding duty of the farmer's life.

The noble horse will look with complacency on the laboring engine as it assumes his former duties in bearing to a distant market the products of the soil. While he assumes the performance of the labor hitherto done by human hands, a higher position and a nobler destiny will then be the farmer's lot.

The purchase and use of the best labor-saving implements has become a necessity and a most important condition of success to every farmer. Yet here as elsewhere we ever find along the pathway of life wrecks that mark the rocks on which others have stranded. It would take untold thousands of dollars to pay for discarded and worthless implements purchased by the farmers of Illinois. And a like amount to represent the cost of valuable machinery that has rotted on Illinois farms within the last twenty-five years for want of care. Practical experience and a careful discrimination is as requisite here as elsewhere, and care, continuous unremitting care, the talisman word of the farmer's calling. Financially, the farmer must depend for success more upon saving than getting. While he adopts his pursuits and directs his efforts to make his receipts as great as possible, yet he can never make his business a success, financially, unless he reduces his expenses to the minimum. His occupation naturally supplies most of his wants. Nearly all the necessaries and most of the luxuries of his table can be produced by his own culture, and he should make it a rule to supply as many as possible; and the farmer who aspires to use the extreme of city fashions in his table, clothing, and equipage, will find them fatal to his success. Of all things he should learn that our actual wants are few, but imaginary ones have no end.

The vital question of farm and household expenses is the rock on which the fond hopes of many an industrious and honest farmer has been wrecked. Franklin's proverb, that "many an estate is spent in the getting," forcibly enunciates a truism only believed by many when too late.

It should ever be borne in mind that the gains of the farmer are small but constant. The spring or tiny rivulet if conducted into a tight receiver will swell to a fountain, the ultimate amount of which can scarcely be realized, but if left to spread over a dry and
absorbent soil will rapidly and forever disappear. So the small, various, but sure gains of the industrious farmer may be made to swell to competence, affluence and respectability, or be swallowed by the endless, unnecessary, and perhaps hurtful little expenses when left to fancy, caprice, or reckless supervision; and the income of the best cultivated farms will disappear, scarcely leaving a memento that it ever existed.

Financial embarrassment cramps and emasculates the efforts of the farm, and is the upas tree of his calling.

Books, periodicals and every available conduct of intelligence, are not needless luxuries but are as necessary and useful to our pursuit as to any other. Three 10'cent cigars per day will purchase over one hundred dollars worth of books per year, and a fine meerschaum pipe one-tenth as many more. The books will enlarge and improve the mind while the others will deteriorate and ruin it.

Time is the expressed vital element of many business contracts; so time is a necessary condition of agricultural success. The irrevocable decree of nature's laws has ordered that the season of seed time, of growth and harvest, shall succeed each other in regular succession; and each is indelibly marked on the dial of time, not exactly by days or months but by the signs of nature's own efforts.

The swelling bud, the awakening vegetation and expanding leaf, tell that the season has come, that nature is ready for her reproductive efforts. There is then no time to be lost; it is the critical period, and those who wait upon nature must leave to her autocratic choice the time for her productive efforts.

As the full blown fragrant beauty of the flower marks the time when the pollen should be applied to the forming germ of the future fruit, so does the springing green of the fields and woods mark the seed time of the year, and no superstition or legends of pagan mythology, moon or stars, should be allowed to give the lie to nature's call or gainsay the fiat of omnipotence expressed in the springing vernal beauties of the year.

The seasons of culture and of harvest are equally important. The farmer must be prepared to attend at the allotted time and not attempt to vary or change where he has no power to control.

The daily routine of farm life should be regular and periodic. The feeding and care of animals should be done at regular and stated times, as much so as the meals and rest of the family. All nature moves in periodic times; the planet's revolutions, diurnal and annual, are counted to seconds of time; the seasons come and go with nearly the same precision. The vegetation of seeds, maturing of crops, the periods of gestation and incubation of animals, are all marked in time's record by fate's unerring hand.

Moving in a periodic world, drawing from periodic nature the reward of his toil, he too must conform and move in harmony with all around him. The slatternly out-of-season farmer is not the successful one.

Much has been said and written as to the daily time an industrious business farmer should devote to labor, and a variety of wise saws have been current enforcing the idea that the man who most abuses his physical and mental powers and was really the most abject slave, was a fit example to follow.
It was claimed that when the tired laborer was sufficiently rested to turn over in bed it was time to turn out. I have known several who followed that rule and each of them became insane as might be expected. A pursuit that requires its followers to rise before daylight and to labor till after dark; to deprive themselves of needed rest, recreation and time for mental and physical recuperation and improvement, is one that all sensible persons should avoid. I do not believe that any man was any more successful as a farmer who persisted in laboring out of season or compelled his hired help to do so. But my observation convinces me that the reverse is the fact. A man that labors ten hours in the field per day will do more labor in a season than he would when compelled to labor more hours, and I am not certain but this time might be slightly reduced with profit.

The human organism is not an engine made of iron, nor a brute beast, valuable only for muscular strength, but a combination of muscular power, nervous energy and mental, social and moral intelligence, and deprived of the exercise of any of these lessens his efficiency. When overtasked, jaded and depressed, he is not half as valuable as when in the full possession of all his faculties. All the duties of the farm laborer needs to be directed by intelligence, and when exhausted by the day's toil he needs a time for social, mental and physical recreation, and all the rest his feelings call for. Thus refreshed he comes to his duties fresh and vigorous; with all his faculties in the best condition, he will do more and better work, his feelings are more kindly towards all around him, he is a better master, a better servant and more successful in all his efforts. But deprived of rest and all enjoyment he is but a slave everywhere, his hand will paralyze all it touches.

It is this ceaseless round of toil, "to eat, to sleep, to work," unenlivened by mental or social enjoyment that has made most of the agricultural class that stupid, listless, unthinking people they have been. I do not ask that the laborer shall be released from the full and reasonable performance of all his duties, but I ask that the laws that made our natures and demands their proper discipline as a condition of health, enjoyment, and efficiency, shall be obeyed. And here as elsewhere I insist that compliance with all of nature's laws is the summit of human wisdom. The farmer that pays his help full wages, keeps them comfortable, makes them happy and cheerful and pays them promptly, will as a rule find them interested in his business, careful of his interests and trustworthy—most important aids to success.

The pursuit of agriculture in its diversified branches requires the existence of the household. It is strictly a domestic institution. The influence and governing power over all the interests must radiate from a common center, and the gains must be collected and cared for at that center. The domestic animals need to know it, and these, with barns, out-buildings, yards, gardens, fruit orchards, all so constantly require the supervision of some one interested, that a well organized household becomes a necessity in this pursuit.

Adam would have made but poor headway among the bowers of Eden without his Eve.
The ancient patriarchs always took a helpmeet before they commenced keeping flocks and herds.* Modern farming is but a continuation and modification of the patriarchal institution.

It is the natural pursuit of man and the foundation of the world’s support.

It is the proper nursery of men, and of physical and mental vigor and virtue, and destined to be of intelligence. The recent efforts for agricultural education; the general discrimination of agricultural literature, and the uprising among the dry bones of agricultural stolidity, all point to a future promise. But the most significant sign in that direction is the advance in female education.

The introduction into this institution of the farmer’s daughters by the side of their sons, is an acknowledgment that the farmer’s household is as important as the management of the farm. As much intelligence is needed and is as useful in the qualification of the mistress as of the master. The orderly, neat and able management of the farmer’s home is like the balance wheel of a watch, a proper regulator and starting point of all its movements.

The old homely and trite saying, that of the income of the farm the wife could throw out of the window with a spoon as fast as the husband could throw in the door with a shovel, has really as much truth as fiction. And not only the household matters distinctively, but the poultry, the dairy, the young animals, the yards and the garden are the care, the delight, and the pride of the thrifty housewife. But more than this, her intelligent and practiced eye can oversee the more important business of the farm and the conduct of the help during the absence or disability of her husband, and she can be at all times the confidential counsellor and assistant.

It was said by David O’Connell, the great Irish agitator, that he could stand without injury the wild buffetings of his political opponents, he could grapple with his enemies and the enemies of his country and maintain his equanimity, of temper and unflinching fortitude, if he had a quiet and comfortable nest at home. The genial smile, the kind word of encouragement, the unflinching faith in his mission, and the tender care of his wife, was a panacea for all the ills of his stormy life. Many a humble farmer with his sons and hired help have, like O’Connell, found all their toil rewarded by the kindly care and influence of a model matron.

Wordsworth has beautifully described the pleasure with which, when returned thirsty and wearied from the field, he sipped the cooling draught from the “moss covered bucket.” He might have described with equal pathos the soothing rejuvenating influence of the kindly housewife as she welcomed the laborers from the heat and dust of the field to the shade, the quiet and the homely but luscious meal of their rural home.

With what tender recollection in imagination we go back to our boyhood days on the old homestead, the dearest spot on earth. The morning sun is greeted by the cackling of the poultry, the bleating of the lambs and calves, lowing of the herds, singing of the birds, the fragrance from the flowers of the yard and garden, and the cheerful greeting of the well ordered quiet family as they care for all these numerous dependents, cheered by the model concert of nature’s music, and then with stout hearts and willing hands went to the wel-
come labor of the field. How we listened with anxious, expectant ear for the call to the noonday meals, sure that the hand that was catering for our wants was guided by a skill, kindness and care that knew no failure; how that hand bathed the aching brow, bound up the lacerated limb, and whose frugal skill made old clothes look almost as well as the new.

How sweet we slept on the couch smoothed by her magic hand. In fine, a kind appreciative young farmer need never expect to get nearer paradise here below than to have a helpmeet possessed of all the excellence our boyish fancy endowed our matron mothers in the days of long ago. With such a mistress to preside over the household, and with a keen active perception, take in and scan all the operations of the farm, in and of her misnamed “better half,” and if that half is any thing more than half a man in his calling there need be no fears of failure.

But the world is progressive. If to the domestic skill, care, economy and thrift of the agricultural women of the past, shall be added the aid of a scientific education as broad, deep and practical as will be allotted to the other sex, then will her influence, heretofore so valuable, be immensely increased.

With a thorough knowledge of the orders, classes and natural history of plants, their natural habits and requirements, she can direct the culture and care of the lawn, the garden, and the fruit orchard, and make them a thing of beauty and profit. Here is her natural sphere, and we cannot overestimate the success of her efforts when aided by that liberal education which she so rightfully claims.

No eye like hers can trace all the wonderful transformation of the tiny insect, learn to know all its secret history, and thus be prepared to ward off its destructive attacks upon her flowers, her vegetables and fruit.

Her knowledge of physiology, hygiene and the laws of health, will best preserve the family in health and comfort. To her care is necessarily entrusted the care of the dwelling and its surroundings, the heating, ventilation and living habits of the inmates on which their health depends. There is nothing more fatal to farm success than continued sickness in the family, and most men have learned to know that disease does not come usually from providence or fate. Decaying vegetables in the cellar, a pest hole from the sink spout under the kitchen window, a decaying manure heap near the dwelling, or miasma from the hen roost or pig pen, has entailed a season of sickness and suffering on many a farmer’s family, and perhaps sent some of their number over the dark water.

Breathing the pure air of the country, sufficiently removed from families to be exempt from contagious or other disease from that source, the agricultural population, where they do not inherit a diseased organism, ought to be exempt from serious disease through a reasonably long life. Their food coming direct from nature’s hand, and if properly selected and prepared, will not induce disease. Their labor if not in excess is healthful and invigorating, and with proper rest and needed recreation and amusement, and free from those vices so common in our cities, they might send most of the country physicians to the towns and cities, or compel them to follow some other calling.
This department calls for constant care and the exercise of a sound judgment and skill, and entails a fearful responsibility on the mistress of every farmer's household.

I might enumerate almost indefinitely the condition necessary to success in the farmer's pursuit, but there is one more only that I will name, one that is requisite to success in all other pursuits as well as this, that is business capacity and economy.

There are men who can never succeed in any business; their efforts are always abortive and lamentable failures and no amount of direction or instruction would change the result, while others have that sound practical common sense that never fails—and between the two are all grades of business talent. Many of the latter class will be much benefited by specific direction in their calling, but the first described never will. Where nature's handiwork is a failure, man's efforts will avail little.