Highest of all in Leavening Power.—U. S. Gov't Report, Aug. 17, 1889.

Royal Baking Powder

ABSOLUTELY PURE

SALUTATORY AND POEM ON PRIDE.

(Read by Anna Allen, of the class of '91.)

The pleasant duty you see,
Has fallen to me,
Of welcoming you, one and all;
To our class day graduation,
One of the happiest in creation,
We welcome young, old, great and small.

First we welcome the board,
For you all have heard,
How they go to the legislature,
To help pass the bill
And others to kill,
And thus get our appropriation.

We welcome you our teachers gladly,
Who were so kind when we acted badly,
And often tried your patience sore;
Who helped us o'er the rough places,
But never laughed at our disgraces,
And opened for us wisdom's door.

So our thanks to you we'll give,
And in our hearts your names will live,
Forever and forever,
And will remember when examinations came,
Because we failed we were to blame,
And can forget it never.

And our dear old classmates too,
With heartfelt joy we welcome you,
Your names we will not mention;
For soon in this place you will be,
Do take heed of all you see,
And give the strictest attention.

To you, our parents and our friends,
A cordial welcome we extend,
We greet you all with gladness,
And may this day so rainy and drear,
Be filled with sunshine and good cheer,
And joy unmixed with sadness.

So Board, teachers, classmates, parents and friends,
Who have these exercises come to attend,
We greet you every one,
And hope the few words which I have to say
Will be taken by you in the intended way
And not put a misconstruction.

The subject which I have chosen,
Hope you will not aweary grow,
For my subject is Pride and applies not to one,
But touches alike, high and low.

There are the people, who are proud of their rank,
And proud of their ancestors too,
Who distinguished themselves in war,
Or in some way we never knew.

There are those who are proud of talents,
Beauty, wealth, and accomplishment,
And is manifested by distance, reserve,
And very often contempt.

There are those too proud to know their friends,
Often their own father or mother,
But when the world has forsaken them,
Will be glad to know none other.

In general, proud people think,
And live for themselves alone,
They think they are discussed
By all and every one.

As a certain writer says,
And I like the exclamation,
"He who lives for himself alone,
Lives for the meanest man in creation."

It is often the effect of ignorance,
And how plainly we see it shown,
In the man afraid to accept a position
In another sphere than his own.

There are as good men engaged in humble employments,
As those engaged in the highest.
See! how many who begin at the foot of the ladder,
Are now considered our wisest.

Do not think for a single moment
That I would nepreciate
The honest pride we should all possess,
But will immediately stat ,

That it is the Pride which places one person
Above another that I think wrong,
For besides it makes a man stubborn,
And hard with him to get along.

Pride and poverty combined,
Make a man's life up hill labor,
A struggle to keep up appearances,
And to hide it from his neighbor.

He fights with poverty on one hand,
And proud ambition on the other,
In order to be something great,
And to outshine his brother.

When company comes they serve
Frosted cake and red wine,
And in the kitchen, dry bread and coffee,
Which they say is fine,

But is really unworthy the name,
And know you all will agree,
Of that beverage all could possess,
By hard work and economy.

Broadcloth hides the ragged clothes,
The tatters do not show,
And the misery that is covered up,
How little do we know.

Abroad their faces will beam with smiles,
At home all tears they'll be.
For the most ill sorted companions,
Are Pride and Poverty.

Charity is often confounded with pride,
As both feed the poor of the land,
But Charity gives her glory to God,
While Pride takes hers from man.

When the dew is on the flowers,
They droop their heads and leaves,
But man only holds his the higher,
The more that he receives.

In the wonderful human mind,
There surely cannot be,
Two feelings more the opposite,
Than Pride and Humility.

While Pride will harden the heart,
Which we know it does quite often,
Both the temper and disposition,
Humility will soften.

As likeness he gets love,
Men should love one another,
Therefore Pride produces Hate,
For proud men hate each other.

Some people accuse us of being,
What themselves would be,
When if they were in our places,
Would be more proud than we.

To quell the pride of the greatest,
We should reflect how little we owe
To ourselves and how much to others,
And help them bear their woe.

And could they only realize
How short their time is here,
And one did not feel above another,
Their life would be less drear.

And when you are dying what difference
Can it possibly make to you,
If you die in a hut or palace,
If your life has been good and true.

For its the soul that goes to heaven,
And not that body of clay,
It flies away and leaves it
To crumble and decay.

"In Pride, reasoning Pride our error lies,
All quit their sphere and rush in to the sky;
Pride still is aiming at the blessed abode,
Men would be 'angels' and 'angels' would be Gods."

DRAINAGE.

(Graduating essay read at the O. A. C. by Jno. Fulton, class of 1891.)

The day is not far distant when the western farmer must depend upon something else than chance and verginity of soil to yield him remuneration that will justify him to continue agricultural pursuits. As land becomes exhausted the diminution of yield necessitates improvement of soil. The first step to be taken in this direction is through drainage, by which is meant the art of carrying off water from soil and subsoil, by means of open or closed drains. The term drains being generally understood to apply to closed drains. Scientific investigations are scarcely necessary to determine whether or not a soil needs drainage, as the requisition is plain when land is seen to be filled with water which has no natural outlet or other way of removal except by evaporation. This process of removing water is slow indeed, and becomes slower as evaporation goes on, as the receding water is greatly sheltered by the surface of the soil from the drying action of the sun and wind.

When air is allowed free access to the roots of plants the O. of the atmosphere acts upon the organic matter, thus placing within easy reach of the roots an abundance of food. No two things can occupy the same space at the same time; when land is in a saturated condition air and other gases, necessary for plant growth must in virtue of the above law be excluded. Warm rains that would give much heat if allowed to percolate through the soil, is prevented from so doing by the poor conductivity of the cold water as well as the diminished specific gravity or weight of the warmer. For instance, water at 40° having possession of a retentive soil in spring will not change its position in consequence of the fall of warm rains in summer. Unless removed by evaporation it will remain stagnant during the summer and will only give place to winter rains that supply colder and heavier water than itself. Not only are soluble ingredients of plant food to a great extent carried away by the surface water from undrained fields, but those that are left are in such dilute solution that the plant must extract a great quantity of it or remain scantily nourished, very much like drinking a vast amount of water to get a little coffee. When ground is saturated with water, manures, whether natural or artificial, undergo decomposition very slowly, as it is impossible that O. can enter to combine with C. to form C-O., and instead of being broken up into the requisit constituents of food, acids are formed which are very pernicious to the health of plants, so it appears that insufficient drainage, therefore, deprives the roots of proper nourishment, subjects them to chilling temperature, and forces them to absorb a poisonous fluid. A few of the advocated points in favor of drainage are: 1. The absorptive power of the soil is increased. By this we mean the capacity of the soil to absorb or imbibe moisture, caused by the multiplication of cracks or capillary tubes. In low undrained lands, during the warm summer months, when evaporation takes place most rapidly, large cracks are formed sometimes extending to a depth of two or three feet, occasioned by the shrinking of the land as a consequence of the sudden extraction of water. When the next rains come these cracks are filled up somewhat by what we call the swelling of the ground, until again by exposure to the sun and wind, cracks similar to those of the former season appear. The principle, that if small cracks are good why not larger ones better, will hardly apply here, inasmuch as these so called cracks represent the capillary tubes of the soil, and, as capillary elevations and depressions, when all other circumstances are the same, are inversely proportional to the diameter of the tubes, or, in other words, within certain limits the less the diameter of the tube the higher the water will rise; by capillary attraction it stands to reason that the greater the cracks or tubes to a less height will the water be drawn. These tubes can be so large that scarcely any rise of the water is perceptible, and, on the other extreme they can be so small as to prevent the passage of water. As Prof. Johnson says "Just as the strands of wicking in a lamp must fit neither too tightly or too loosely in the socket," in order to the best capillary action, so in the soil there is a certain degree of porosity which is best suited to the lifting of water. With drained land we find that the required conditions are generally fulfilled as the pulverulent condition of the ground caused by the increased condensing surface holds the moisture thereby assisting in the prevention and formation of such chasms, and substituting in their place very small ones. This process of diminishing the capillary tubes is continued until the whole depth of the soil attains a powdered condition not only rendering land capable of being cultivated at nearly any time of the year, but also during the warm season preventing the rapidity of the evaporation of moisture. 2. The temperature of the soil is raised. This is brought about by allowing the air to enter and traverse among the particles of soil. Well drained land may be saturated for a time after a heavy fall of rain so that all the passages are filled with water, but as this descends it is replaced by air, for where water finds a channel air can always follow, and warm air as in summer, circulating through the soil likewise gives off its heat. The temperature of undrained land is more uniform than that of drained, being nearly the same winter and summer, and corresponds to the mean annual temperature of the air in that locality. Besides the amount of heat obtained by circulating air, a much greater quantity, that required for evaporating water or changing liquid water into vapor of water, is retained. The effect of cooling can be strikingly illustrated by allowing a few drops of alcohol, or, better still, ether, to evaporate on the hand, when a decided sensation of cold is experienced. The same change takes place in wet soil although in a smaller degree, water evaporating less rapidly. Parkes has given illustrations of the cooling effects of evaporation. Suppose, he says, that the yearly rainfall is thirty inches, this would amount to 108,900 cubic feet, or 3038 tons to the acre, per annum, or 298 cubic feet per diem, *i. e.*, to 8⅓ tons or 18,647 pounds for each day in the year. To evaporate such an amount of water, 2400 pounds of coal a day as ordinarily used under steam boilers, would be needed, or 100 pounds per hour per acre throughout the year. As the specific heat, or power of obsorbing heat of water, is greater than that of any other substance, whether solid or liquid, very much more heat is required in order to warm a given weight of water than would be needed to warm a similar weight of soil, so that the arge amount of water which drains away from the land through the pipes must represent an amount of heat equal to that which would have been consumed in effecting the evaporation. Certainly water gives the same amount of heat that it absorbs, but so far as agricultural soils are concerned, this does not help matters much, as only plants of little value do well with ground in an over saturated condition. The heat of summer and the cold of winter effect it but a little way below the surface. Drained land, on the contrary, is more accessible to the extremes of temperature, so that the temperature of that soil corresponds with that of the air, or nearly so, throughout the respective seasons. This is an important matter, for however warm and genial the atmosphere may be for vegetation, plants cannot do well if the soil into which their roots penetrate is much colder than the air. It aids in the prevention of draught. At first thought this seems paradoxical. If land can be drained of surplus water in a wet season, why cannot this drying action go to a much greater extent in a dry one? Let us illustrate. If in summertime we fill a glass with cold water we perceive after a short length of time that a thin film of moisture has collected on the outside of the glass. This water came from the atmosphere formed by contact of the warm air with the cold sides of the glass, and on this same principle are plants supplied with moisture in drained lands during dry seasons. The warm air circulates among the cool particles of the soil and is condensed; the principle being the same as that by which we receive water when steam is allowed to enter a condensor the worm of which is surrounded by a colder medium. By this means are plants supplied with water from the atmospere.

Under this head we may remark that plants not unfrequently are burned for want of water when it is only within a few inches of the surface. This happens more often on low, clayey lands that have an impervious subsoil, causing water to remain stagnant, and as plants detest poisonous fluids, they die as a consequence of the lack of capillary moisture. Drainage increases chemical action. When soil and subsoil are drained, rain-water and air have alternately free access to the various substances contained therein. These substances, chiefly Ca-K-Mg-Na-Fe-Mang, are acted upon by the H2 Co3 (carbonic acid) contained in the rain-water, and by the O of the atmosphere, as well as that dissolved in the water, the carbonated water, as carbonic acid is sometimes called, dissolving out the alkaties in the form of carbonates and the oxygen oxidizing the Protoxides of Fe Mu, etc, to the Peroxides. All substances in a low state of oxidation are perfectly oxidized, or as many say, "rusted," thereby rendering them capable of being absorbed by plants. The above mentioned substances, Ca-K:Mg-Na, etc., are practically insoluable in water, but when brought in connection with H2 Co3, they are rapidly dissolved. From silicates, which are among the commonest minerals, such as clay, ordinary sandstone, flint, etc., potash, soda and other alkalies are dissolved, as Co2 is a more powerful acid than silica at the ordinary temperature of the soil. As the expense of draining is considerable, it will always be somewhat of a drawback, and not until the farmer is convinced that he will receive a dollar in return for every dollar expended can he be induced to invest. Not infrequently force of habit and prejudice are great obstacles, but when these give way to reason and the old ruts of ancestry are abandoned, agriculturists will not neglect to take advantage of the assisstance of the friends of Nature.

The rude work of an unthinking farmer who scratches the surface soil with his plow, plants his seed and trusts to the chances of a greater or less return, is unmitigated drudgery, unworthy of an intelligent man, but he who investigates all of the causes of success and failure in farming and adapts every operation to the requirements of the circumstances under which he works, doing everything in his power that may tend to the production of the results which he desires and so far as possible avoiding everything that may interfere with his success, leaving nothing to chance that can be secured, and securing all that chance may offer, is engaged in the most enobling, the most intelligent and the most progressive of all industrial avocations."

TEACHERS ASSOCIATION.—The State Teachers' Association meets at Newport June 30th to July 3d. The executive committee consists of B. J. Hawthorne, chairman and manager; W. E. Yates, vice-president; Frank Rigler, secretary; D. V. S. Reid, treasurer; J. B. Horning, certificate secretary. The local committee at Newport is S. G. Irvine, Samuel Case, R. A. Bensel, Dr. J. A. Bailey and William Grant. The fare will be so cheap that all teachers can attend. Return tickets from Albany will be one-third regular rate, after having paid regular rate to Newport. On the O. P. to and from Albany, $2.50. The Arion Orchestra, of this city, and the Apollo club, of Albany, will be present and take part in the programme, which promises to be very interesting. On the first evening S. I. Pratt, of Newport, will deliver the address of welcome, responded to by P. L. Campbell; W. E. Yates will welcome the teachers of Benton county, which will be responded to by Prof. H. S. Strange, of Union county. Pres. Van Scoy and Pres. E. N. Condit will deliver lectures, the latter on "Language Culture." Addresses on the evenings of the Institute will also be delivered by J. R. N. Bell, C. W. Roby, Dr. Ross C. Houghton and Prof. Thos. Condon. In the regular institute work D. V. S. Reid will talk on orthogoraphy, Prof. G. W. Walker on corporal punishment, among the many interesting parts of the programme.

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