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orecoly.
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## mil

PROGRESS IMIRRICCITIOM

## Number or Aeren in Orgon Ite elatued in Tea Years.

The progrese in agrieulture in the arid atates and torritorien dur ing the decade anding with 1995 in ehown in the report just published
by the Division of Agrieulture of the Twelfti Censua. Ap this pro grese in atti ibutable largely to irri gation the atatioties relating there to are of gevieral interest.
The number of irrigatore in the United States in 1899, not inelad ing irrigators of riee, wae 105,218 ,
an increase in ten veare of 99.9 per an increase in ten years of 99.9 per
cent. The area inrigated wese 7 ,
539.545 acres, an inerease of 107 539.545 acres, an inerease of 1070

per cent. Of this area, $5,944,412$ acres were in crops, and $\mathbf{1}, 595,133$ inch in height the bead of wate | acres in pasture and unmatured |
| :--- |
| cropa.: The cost of irrigation asy. be four and one half inches would | cropa. The cost of irrigation egs.

tems in opesation, exclusive of those on riee plantations, was $\ddagger 67$, 770,942 , whiie the value of the irrigated crope was $\$ 86,860,491$ The toral length of all the main
alitehes in the arid and semi-arid diteches in the arid and semi-arid
atates and territories was 14,149

The ayerage number of irrigated
acres in farme in arid ata acres in farms in arid staiees and
territories wes 71 ; the average val ue of irrigated land per acre. $\$ 4253$;
the average value of crops pro the average value of crops pro

duced on irrigated land, $\$ 14.81$ | the average first cost of water |
| :--- |
| $\$ 7.80$; the average annual cost of | $\$ 7.80$; the averago unnual coot of

maintemapcr, $\$ 0.38$. Of the 5,711 . 965 scres in eropes. hay and forage oevupied $3,665,654$, or 642 pe
cent; cereale, $1,399,709$, or 24.5 per cent; cereala, $1,399,709$, or 24.5 pe
cent; vegetables, 168,432, or 29 per cent; orchard fruits, 251,289 881, or 4 per cent. The value of sih, or 4 per cent. The value o
the hay and forage was $* 34,834.966$
 $\$ 9,627,491$; orchard fruita, $\$ 3,920$ tropical fruite, grapes, flowers plants. sugar beets, ete., $\$ 16,712$,

In Oregon the number of irrigators increa sed from 3,150 in 1889
to 4,636 in 1899 or 47.2 per cent and the number of a arres irrigated
from 177,944 to 388,310 or 118 . from 177,944 to 388,310 , or 118.2
per cent. Thn ditehes in operation in 1899 had a length of 2,283 miles, cost $\$ 1.838,782$, and irrigated 388, irrigat-d fres. There were 199 acres ted area in crope was 290,256 acree yielding proructs valued at $\$ 3.062$,
926 . The area irrigated in pasture and immatured crops was 98,054 acres. Shortly after sending the irriga tinn bill to the President, Congress the Dirretor of the Census to com pile statistics relating to irrigation for the crop year of 1902 With the data now asemmbled, this wor will be comparatively simple, mos To secure this information inquirtors throughout the United State The co operation of those interested in irrigation is earnestly solicited for upon their prompt reapons will
depend very largely the value of depend very largely the value of
these atatistics. This is in part a these atatiatics. This is in part a
nupplementary work, the results of kupplementary work, the results of
which will be utilized in the work soon to be undertaken by the De provisions of the irrigation bill. case was oo similar to my own tha

| Water Memsurement. | Thencluded to try the renult was yonderful. I conld |
| :--- | :--- | Water measurement.

The legal mensurement of water hardly realize that I wis well again in Califorma is the miner's inch, or believe it could be so after hav which is the quantity of water that ing suffered so long, but that on will flow through an opening of one botile of medicine. costing but a fel aquare inch uider a pressure of cents, cured me." For sale by H. M Dur inches wiove the top of the
pening. $A$ winer's inch is


#### Abstract

1.57 cubie feet, or 8976 gailons per minute. The velocitg of Der minute. The velocitg of run- ning is measured by the same lawe as that of heavy falling bodies." A falling body increases ite veloctity in proportion to the time it is fall in proportion to the time it is fall- ing, and the distance fallen is in $i n g$, and the distance fallen is in proportion to the square of the number of seconds of time it is falling The theoretical relocity of waster flowing out of in aperture of one foot is 8.02 feet per second; ix perimentally it is but 54 feet. The velocity of a stream of wa flowing from a ditth, or other source 18 equal to that which mource 18 equal to that which a heavy falling body would acquire in falling from a height'equal to the distance between the surface the water and the middle of the or- ifice. This distance is called the ifice. This distance is called the head of water. The quantity of ter issuing from an sperture is proportion to the equare coot of head With an aperture one inch in height the bead of water under a four inch pressure would square root of a four and one half


 nech head is 212 inches and of a six and one half ineb bead 255 in -ches. Therefore, an opening that vill allow the escape of 100 inchen of water under a four inch pressure
will in the same length of time unwill in the same length of time un-
der a six inch prosure discharge
120 inches. 120 inches. The work which water
can do is in proportion tothe quantity multiplicd by the squarn of the
velocity. That is, the work is in velocity; That is, the work is in
proportion to the aquare root of the cube of the head. Dy meane of the tollowing rough-and-ready rul
the quantity of water flowing in ditch or atream may be approxi mately determined; seleet eome
point where the flow of water is a bout the same for a distance of, say,
bout 50 feet. Then make a number or
different measurements in the nidddifferent measurements in the mifld-
die and along the slope of the banks Che stream or ditch, to a certrin
depth of the water; add these measurements together and divide
by the total unuber of measure. nents made to ascertain the average depth. then to fiud the volocity.
place a piece of heavy wood in the
stream and as accurately a 3 possihe rate the time required for it to pass over the distance above men
tioned. Multiply the area by the main velocity and the product is the number of cabic feet by 1.5 of miner's inches.

## Jorgensen is still to the front

ith low prices. Call and see his
ine of watches, clocks, jewelry
Mens Summer Hats reduced-
Biown de Sops.
Cery Remarkable Cure of Diarrhoea
About six vears ago for the firy
me in my life $I$ had a sudden an time in my life I had a sudden an:
severe attack of diarrhoea," eays Mrs. Aliee Miller, of Morgan, Texas. got temporary relief, but teame long years I have suffered more isery and agony than I can thl
fiwas worse than death. My hus band epent hundreds of dollars for physicians yrescriptions a id treat ment without avail. Finally we
moved to Busque countr, our pres ent home, and one day I happene see an advertisement of Cham berlain's Colic, Cholera and Diar
thoea Remedy with a testimonia rhoea Remedy with a testimonial
of a man had been cured by it The opening. A miner's inch is equiv- ney.
rich year for all

Oregon Industrien Make Fine
Showitig for 1902 .

Over $\$ 25,000,00 f^{\prime}$ will be added o the wealth of the State of Oregon this vear from five of ber principal industries says the Oregonian. The This amount, together with several millions which will be distributed other indurtries not included
these figures, will these figures, will undoubtedly esult in the most prosper
Oregon has ever known.
Lumber will probably lead the
limber will probably lead the
imates place the cat of the sear
Cor the entire state at $1,000,000,000$
600,000. Next on the liet is a whea
arop, which, at present prices, will
The largcet wool clip ever sold in
the state has practically all reach-
out of the handsenth has passed
out of the hands of the growers at
better average prices than have
prevailed for a number of yeara
000 pounds, and at the pricen generally paid has probably added $\$ 3$ With hops the yield promises to en near the record, with practically certainty of 80,000 bales, which. it present prices, will amount to Thout $\$ 2,500,000$.
The returns are not quite all in ori the salmon pack, but enough ie koown to warrant un estimate of ver $\$ 2,500,000$ as the value of the
canned frozen and pickled canned
duct.
Whi
While theae are the principal dustries and the casieft on which figures, there are a large number of exceed the remarkrble figures of the big five. Fruit last year wap
a pretty elose running mate with pretty close running mate with
hops and salnon, and this rear, if complete returns were obtainable might inthe a showing fully as
favorable as etther of the great staporable as etther of the grea
shich have made Oregon famous.
The livestock industry as wealth producer will propably list, and were accurate figures obtainable would astonish people unfaniliar with the magnitude of the
industry. Pigs and goats rill also helpia piling up these millions of money ior the agriculturalist to distribute, and the value of dairy products this year cannot be ex-
pressed without the use of seven figures. Oats, barley, rye, flax. corn and nthier similar producte. while not approaching wheat in
prominence, are in the aggregate unfiecently important to help out is nbt so plentiful. Considering the population, it is donbtful if there is another state in the Union financial showing.

Boxes for Rural Mail
Thu :ostoffice Department, afte due investigation by aspecial board changes in its regulations gaverning boxes for rural free delivery
routes. The new order is to go iato effect October 1. After that time

1. each pereon living along a newly eatablished rural route and desiring
rect, at his own cost, a box, in ac cordance with the following specifications:
All square or oblong boxes mus: be of not less than 20 standard gauge sheet iron or steel, and gal vanized, ened either by folding the metal
back upon itelf cr ly riveting te
the edges band iron or steel at least one sixtenth of an inch thick, or by wiring with at least 10 goage wire. If the metal materialis heavier than specified, edge reinforce-
ments are not necessary. Circular ments are not necessary. Circular, must be of not less than 22 guage edges.
All boxes must be made in the ast morkmanlike manner, ard
here mutt be no joints depending solely on solder to hold different parts of the box together, butall joints must be seamed, curld or ments must be strongly hinged or pivoted, and extend sufficiently over the opening to protect the
mail within from ram, snow and dust.
The dimensions of free rural de retangular. not less than $18 \times 6 \times 2$ 8 inches long and six inches in diameter. the capacity to be not perience has cubie inches. Ex opening at the side or top are not onvenient than those opening a
The dep
The department will inspect satw ple boxes made by different firms. and those found to comply with autboritively etamped "Approved by the Postmaster General." Boxes rote markel will come under the arotection of the United se safeguarded against destruction or injury, as the law pro vides a fine of not more than than three years for not mere nalic:ously tan pering with Unit tates mail boxes or their contente. Each box aust be erected by the roadside, so that the carrier can dismeunting from his vehicle. Th ame box must not be used for pants of one house. Residents long new routes who, after Oct. 1 guirements, will not be served ty rural carriers.
The 14 styles of boxes approved ill be accepted as March 20,19 ) he foregoing regulations when con aracted for prior to Oetober 1, but
after that time the 14 mauuacturers will be required to readjust the inses to meet new conditione.
In all service hereto lished, and wherein inappropriat uneafe and unsuitable hoxes are
use, the departmeat that patrons of rural free delivect will conform as promptly as possi hey to the new requirements, ree delivery. The department in tends without undue hasteor harsh ness, to secure a uniformity emong
the rural routes, and to have the boxes subatantial and in appearof the Government and pootal ser-

Slight injuties often disable man and cause several days' loss of lime and whe., blood poison devel-
ope. gometimes result in the loss of a hand or limb, Chamberlain's Pain Balm is $\varepsilon n$ antiseptic liniand burns it paues them bruisen quickly and withour poisonevents any danger of blood Burris: Fred Heines, Harney
J. B. Stetron Co hats-N, Browe



