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Dairy farms and agricultural prosperity in Virginia, 1890-1915

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DAIRY FARMS AND AGRICULTURAL PROSPERITY IN VIRGINIA, 1890-1915

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OUTLINE

tral theme: The introduction and growth of a sound dairy industry from 1890 to 1915 helped restore Virginia agriculture to prosperity.

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DAIRY FARMS AND AGRICULTURAL PROSPERITY IN VIRGINIA, 1890-1915

In the two-hundred-fifty plus years from the Jamestown landing to the first shots of the Civil War a careless, staple crop agriculture wrought havoc on thousands of acres in Tidewater and Piedmont Virginia. A Virginian looked around him in the Spring of 1859 and was moved to write: "Every county of Virginia from the Seaboard to the head of tidewater now present a standing monument against the ruthless destroyer [tobacco], in a wilderness of piney old fields and gullied hillsides ..."[1]

Then came the war, and along with a generation of Dixie's youth, Virginia's agriculture was maimed and broken. The soldiers who survived came home to a ravaged countryside. Fences and the buildings still standing were in disrepair, and fields were reverting to brush and scrub pines. The traditional basis of labor was gone forever.

Cluthhing at straws, many in the proud South embraced share-cropping and found themselves and their land worse impoverished and re-enslaved by the one crop system.[2] With every passing season, the lash of cotton and tobacco scourged more brutally a people little able to understand and less able to see a way out of their plight.

At length, demands for agricultural reform were heard. The reformers were not afraid to face the bogey men that terrorized Virginia agriculture. They scolded the farmer for selling his fields "by the bushel and the pound," as had been the custom in the tobacco kingdom. To reverse this trend, livestock farming and dairying were promoted.[3]

Assuming that the soil was exhausted, the reformers advocated its revival through liberal applications of lime and manures. They championed the dairy cow, for she would produce more manure cheaper than any other animal. Strapped farmers probably heard the word "cheaper." The reformers declared that a dairy herd would contribute not only the fertilizer to grow its feed and forage, but enough for other crops. Furthermore, most of the nutrients consumed by the herd in its feed would be returned to the land as manure. Instead of selling a part of the fertility of his farm with every crop, the dairyman would enrich it.[4]

The promise of prosperity was not just for the fortunate few who owned broad, level acres. Dairying was remarkably advantageous to farms with tillage impediments such as steep hillsides and stony or soggy fields. The digestive magic of the dairy cow would convert the herbage on the rougher fields into fertil - izer for the plowed lands. In turn, yields on the arable soils would leap, and the farmer would prosper. No more would rough land be poor land.[5] Farms would increase in value. One apostle of dairying ventured that a few years might increase per-acre values from $25 to $200.[6] In an open letter addressed "To the Farmers of the South," W. W. Finley, President of the Southern Railway called dairying the most needed type of agriculture in the South. He saw it as a means of enriching the soil, even uplifting the quality of agriculture, and an industry that was profitable in itself.[7]

If dairying held special advantages for Virginia's tired fields and farmers, Virginia held special advantages for dairying. Her mild climate and short winters permitted a far longer grazing season than the traditional Northern dairy region. Less costly housing was needed for the stock than in areas of harsher winter weather.[8] Feed and forage crops enjoyed more frost-free days; often, two crops in one year were possible, and on the sandier soils Bermuda grass pastures luxuriated. Land for sale was cheap and plentiful. Rainfall, more than adequate for intensive agriculture, was distributed abundantly over the growing season. Numerous cool, clear springs in the Piedmont and a water table accessible by conventional wells

n the Coastal Plain supplied the fresh water essential for dairying.[9]

However, although Virginia offered superb natural advantages for a dairy ndustry, and although dairying would enrich her impoverished soils and be a onic for her depressed land prices, it was the peculiar profitability of the lairy farm that tempted many tobacco growers to lay down the hoe and take up he pail. Perhaps most attractive was the steady, bi-weekly or monthly milk heck weighed against the uncertain, once-a-year reward of cotton and tobacco, ash crops at the mercy of storm, season, and a market too often glutted at sale ime. Too, the dairyman produced his family's milk, cream, butter, and beef, instead of having to buy them. Most important, the farmer who dairied placed imself on a cash payments basis, and experienced the buying power of hard, avail - able money. He was able to escape from the crippling credit system. The experience of a Chesterfield county small dairyman who, in forty-eight weeks, earned $176.25 from butter sales, $21.75 from the sale of calves, put dairy products on the home sideboard, and on the by-product of his churn, skim milk, fattened hogs and fed is poultry was no isolated exception.[10]

As important as dairying's capacity to provide ready, steady cash was its long-term, far-ranging effect on prosperity. Asserting that "no branch of agriculture is more raliably [sic] remunerative when well conducted [sic] ..." than dairying, one friend of the milk cow was quick to add that besides the security of a steady income and the overthrow of the credit system, herds led to prosperous communities and well-ordered farmsteads.[11] Another man pointed to the relationship between increased land worth in the wake of dairies and a corresponding rise in community wealth.[12]

In the market place, too, the Virginia dairyman was specially blessed. In 1888, only eighty-six dairies and creameries were reported in the Old Dominion, mostly located near the cities and engaged in the milk and butter trade.[13] Eleven years later, there were still only 250,000 milk cows in Virginia, or sixteen

cows per hundred people. This ratio was regarded as at least eight cows per hundred people below below the minimum necessary to meet the dairy products demand of the state.[14] As late as 1911, fifty Southern cities imported annually nearly $250,000,000 worth of dairy goods from other parts of the United States; Norfolk alone landed more than eight and a quarter million pounds of butter and cheese. For the year 1905, the United States Department of Agriculture reported that thirty-eight Southeastern cities consumed 14,905,151 pounds of creamery butter, only 67,849 pounds of which had been churned south of the Mason-Dixon line. In the year 1902, Norfolk received 1,000 gallons of cream from Philadelphia, New York, and New Jersey weekly; a single Richmond firm handled over five-hundred gallons of cream every month. An indignant contributor to The Southern Planter asserted, "Virginia should produce the milk, butter, and the cheese consumed within her borders; also a dozen or more staple farm products now purchased from outside the State."[15] But, she did not.

In part, the failure of local supply to meet the demand was due to the rapid growth of Southern cities, especially in the decade from 1900 to 1910, as the South became more industrial and urban. In part, too, it was due to the post-bellum decline in the number of milk cows in the South.[16] A vast, ready market for dairy products, highly favorable to the farmer, developed in the land of tobacco and cotton, as a result. Milk prices to producers were the highest in Richmond of twenty-nine cities in the United States in 1914, and Washington, D. C. ranked second.[17] In the early 1900's, Virginia offered a fertile seedbed for a dairy industry.

The dairies that sprang up in Virginia were of several types, and differed most in location, marketing techniques, and size. Most profitable, because the product required the least preparation, were whole milk dairies. However, to sell whole milk a dairy had to be located near a city or town. Good roads were important; there was scant demand for curdled milk. Whole milk dairies

disposed of their product in two ways. One method was to market milk wholesale to a dairy products distributor. Bellwood Farm, a large Chesterfield county dairy, delivered milk in ten gallon cans to a Richmond dairy plant, receiving nineteen cents per gallon in summer, and twenty-one cents per gallon in winter. The milk cans were hauled to the Richmond plant with a wagon and team of mules.[18] The other method was the retail, door-to-door milk route. Farmers who marketed milk directly to the consumer earned more from their product, but the risks and responsibilities, and the labor requirement were also greater.[19]

The butter and cream trade was supplied mainly by dairymen located too far from a town to participate in bulk milk sales. Often, the farmer who shipped butter and cream marketed his product independently. Outstanding among the butter and cream dairies in Virginia were J. P. Taylor's Meadow Farm, at Orange, and T. O. Sandy's Grove Farm in Nottoway county.[20]

As the Virginia dairy industry grew, the state began to aid it actively. In 1908, the General Assembly created the position of Dairy and Food Commissioner, and W. D. Saunders was appointed to the post. Saunders, formerly with the Virginia [agricultural] Experiment Station, was experienced in dairying, and encouraged farmers to dairy. Travelling about Virginia and holding meetings with farmers, he promoted the establishment of cooperative creameries. Cooperative creameries would produce a more uniform product, and in sufficient volume to attract whole-sale buyers.[21] A. F. Howard, a creamery inspector, added that home-churning by hand was obsolete; railroads made it possible for even a small dairyman to ship milk in bulk to a creamery several times a week. A creamery could make butter cheaper than the farmer, and with less work. The last point was probably well-received by the farmer's wife, who usually sat at the churn.[22] However, Saunders' claim that cooperative creameries would produce a more uniform product was the clincher; as the editor of The Southern Planter reminded dairymen, "The lack of uniformity in quality of product makes buyers wary in handling Southern butter."[23] A good case for cooperative creameries had been built.

Many localities had already witnessed the establishment of cooperative creameries, however, and an alarming number of these optimistically-begun ventures had died in infancy. In fact, many of them were still-born. Most often to blame for these tragedies were the professional creamery promoters. These enthusiastic salesmen, representing creamery equipment manufacturers, held meetings with farmers, to whom they promised pie in the sky, provided the farmers would buy the advertised equipment and establish a cooperative creamery. While they painted profits in glowing colors, they neglected to tell the blue denim gentry that a trained labor force would be needed to operate the plant, and that the twenty scrub cows of the neighborhood could not possibly supply even one-tenth of the raw milk necessary to run the creamery. Too many communities found themselves all dressed up, with no place to go, totally up - prepared to operate the expensive machinery sold to them by some silver-tongued promoter. The lucky ones, like the Farmville Cooperative Creamery, managed to purchase enough cows to feed the plant and were able to manufacture enough butter to show a profit. The members of the Farmville creamery had invested almost $2,000 more than was necessary in equipment, on the advice of a promoter, only to have to spend $8,000 for cows to feed their monster. They had found themselves with equipment that could not be operated at a profit with less than four-hundred cows. In addition, they had discovered that they were located too far from their projected market to ship cream, and had been forced to concentrate solely on butter-making. As the creamery manager wryly noted, at least they had a creamery.[24] More often, the members of a promoted creamery association were unable to buy the four or five-hundred cows requisite to operate their plant in the black, and the investment was a bleak loss, to which cobwebbed buildings and rusting machinery were eloquent witnesses.

Fortunate were the more cautious dairymen who enlisted the aid of state or federal agents to establish their cooperative creamery. The agents studied local

beds, advised the farmers of the practicability of a creamery, and helped them plan the plant and secure the equipment at a reasonable cost.[25]

A third type of dairy marketing, in addition to whole milk sales and the cream and butter trade, was cheese-making. Cheese-making does not seem to have attracted much attention in Virginia prior to 1915. An attempt to begin a co-operative cheese factory in Chesterfield county in the Fall of 1895 had gone sour by the following Spring.[26] After about 1915, there were to be efforts to plant small, local cheese cooperatives in the more mountainous part of the state under the guidance of the United States Department of Agriculture.

In spite of the depressed rural economy, lagging dairy production, and suspicious market for dairy products in Virginia, there were many obstacles to the foundation of a strong dairy industry. Skilled milkers were hard to secure. The editor of The Southern Planter complained that it was almost impossible to get the Negro to milk properly, and few white men were willing to do the milking. At the same time, apparently out of pride, most white farmers refused to allow their daughters to be milk maids.[27] Yet, at the same time young Virginians were leaving the farms almost in droves, a fact which caused their elders no small worry. In spite of the widespread opinion that the Negro was slovenly with the milk pail, some farms employed colored milkers with marked success. Bellwood Farm, possibly Virginia's blue ribbon farm in the quarter century from 1890 to 1915, was udderly profitable with the help of black milk maids.[28]

Perhaps the argument that barn help was unreliable was just a good excuse for farmers afraid of hard work. A creamery inspector accused many farmers of being afraid of the day-in-day-out, competent attention demanded in dairying. Dairying would never pay lazy farmers, warned the President of the Georgia State College of Agriculture.[29] The assertion heard from Nottoway county that the dairyman could not make money selling milk at five cents per quart also seems to be a leaky rationalization, for many herdsmen were showing profits at that

lice.[30] Among those who failed at dairying, or shied away from the milk cow, more an a few probably took the attitude of a Mississippi cotton farmer who flat- otedly maintained that he "had always made his living in easier ways and that did not propose 'to be tied to the hind legs of a cow'."[31]

Local boards of health and inspectors acted as dampers on the dairy industry, ough. In a letter to the Suffolk Board of Health, F. H. LaBaume roundly denounced gulations that forbade any livestock but dairy cows, or the storage of feed in e milking barn. He lamented the board's rejection of his use of clean straw dding in the dairy barn, and its policy of condemning barns not fitted with iron tanchions. LaBaume's barn was kept scrupulously clean, sprayed daily with anti - eptics, and was well-ventilated and lighted. He cleaned and curried his cows every ay, and rigidly tested his herd for tuberculosis, destroying all reactors. He fil - tered his milk through cheesecloth, and demanded cleanliness of his milkers. He was unacceptable to the Suffolk Board of Health. Rather than suffer under such arbi - trary regulation, he chose to quit dairying.[32] Near Petersburg, a $20,000 dairy barn, very modern, was condemned by "a certain boy inspector" for insufficient sky lights and the use of straw bedding.[33] Roanoke dairy inspectors refused to allow one dairyman to sell his milk in the city because it contained less than three and one-half per-cent butterfat. Inspectors of the Richmond City Board of Health went so far as to confiscate a farmer's milk on the farm and pour it down the drain. An irate editor of The Southern Planter called this seizure unconsti - tutional and urged a test case in the courts.[34] What probably grated most harshly was that often the Richmond inspectors condemned dairy buildings already passed by the State Dairy Commissioner. How, asked The Southern Planter, could a local agency overrule a state authority's decision?[35]

Besides unscrupulous creamery promoters, overzealous local inspectors, and allegedly incompetent help, dairymen in some districts of Virginia were plagued intermittently by the loss of valuable animals to the tick-borne Texas Fever. Even such outstanding herdsmen as the Bellwoods were sometimes visited by this thief.[36]

To farmers who overcame the obstacles and became established in the dairy siness, the rewards came. Near Burkville, in sandy, Southside Virginia, strong-ld of tobacco, Mr. T. O. Sandy built up a herd of forty Holstein cows. Using e manure from his herd and crop rotations he resurrected a poor farm.[37] At hatsworth," a dairy farm three miles south of Richmond, R. B. Chaffin's ick pasture sods contrasted beautifully with the sparse grass on neighboring, n-stock farms.[38] Canadian James Bellwood's Drewry's Bluff farm, bought in 1888, s described as having been "an exhausted tract of 1,400 acres of land without nce or grass, which for years had been the happy hunting ground of all the enting darkies' of that section of Chesterfield county." Bellwood, who regarded mmercial fertilizers as anathema, built up the farm with the help of a dairy rd and green manure crops; by 1892 it was held up as an example of what could e done with other Virginia acres.[39] In addition to the home farm, "Auburn Chase," llwood owned another James River plantation, "Riverview." He rented "Riverview" o local farmers, demanding that the tenant be a dairyman, for he knew that, as a airy, the farm would be kept fertile and the tenant was sure to have a regular ncome.[40] A wealthy man, James Bellwood grew to love his adopted Chesterfield unty, and longed to see its run-down, sandy soils revitalized.

Less well-to-do men than James Bellwood worked to bring the prosperity f dairying to their communities, too. In Bedford county, a college-educated arm boy bought a cream seperator and nine good cows and showed his stubborn ather that dairying paid. As the local agent for DeLaval Cream Seperators, the young man launched a campaign for dairy farming in a solid tobacco district. nce, an old farmer pointed to some calves on a hillside and informed the youthful agent that he had "thirteen little red seperators [which] seperated every drop of milk that their mammies gave." Not until he was loaned a seperator free for thirty days, and earned $66.80 from the sale of cream was that cantankerous farmer per - suaded to try dairying. Eventually, largely through the free trial approach,

he young college man sold seventy-five seperators to his Bedford county neighbors.[41] enry Pancoast, a Loudoun county farmer who turned to dairying to maintain the fer - ility of his two-hundred-thirty acre farm, and to have a steady income, built up uch a large cream trade that his herd of one-hundred-twenty Jersey cows could ot supply the demand. To fill his orders, Pancoast began buying cream that met his xacting specifications from neighbors. Eventually, over six-hundred cows poured heir efforts into the product that bore Pancoast's label. Pancoast's initiative brought blessings to the whole community.[42]

Dairying encouraged an expanded livestock industry on Virginia farms, thus leading to greater diversification of products. Henry Pancoast raised hogs on skim milk left over after churning, as did many dairymen. Other dairy farmers fed milk to market steers. The manure from these animals also added much needed humus and nutrients to the soil.[43]

Dairy herds also forced farmers to improve the farms. Milk cows demanded good pastures like those at Bellwood Farm, which carried the herd from April to November. Fenced and cross-fenced fields and temporary pastures of succelent rye, crimson clover, and sorghum furnished additional grazing on well-managed farms. The best farmers may have followed the Bellwood practice of clipping alfalfa stands and pastures.[44] The silo frequently followed the dairy cow to the farm. Ensilage was high quality feed, easily handled in bad weather, and took less storage space than an equivalent tonnage of hay. A small Surry county dairyman explained that with corn silage he could feed twice as many cows on the produce of an acre at less cost, and that his cows milked best on ensilage. At big Bellwood Farm, two five-hundred ton silos held what the Bellwoods regarded as good insurance against a poor crop season.[45]

As the Virginia dairy industry grew, winter dairying was introduced. Once, it had been uncommon to find milk and butter on a Southern farmer's table between November and May. By 1910, the reverse was the rule. Higher milk prices in winter were partly to thank for the welcome change. Also contributing were the ease

getting butter safely to market in the colder months, and the advantage Virginia enjoyed over the North in climate. Virginia cows stayed on pasture later in Fall, and went on pasture earlier in Spring than their northern sisters. So, Virginia dairymen began to breed cows to freshen in Autumn.[46]

Along with the introduction of winter dairying came improvements in housing livestock. As Carnation has observed, milk depends on contented cows. The old, rail cowpen, carryover from Colonial days, contributed to udder despair. The farmer who didn't like to see his face in the bottom of the bucket built warm, wind-proof housing for his cows. A comfortably housed cow made better use of her feed and went on pasture in Spring in better condition. Bellwood Farm grew a large crop of wheat every year, not for the grain, but for straw to bed the herd in the winter barn.[47] The cows responded in kind to the milk of human kindness.

No matter how well treated, however, a scrub cow would never milk beyond her inherently low capabilities, as many farmers sadly learned. In the words of one wag, the average piney woods scrub was "built for speed rather than the production of milk."[48] In the years after the Civil War, far too many so-called milk cows were simply dodging the abattoir. According to the President of the Georgia State College of Agriculture, many cows in the South were being kept at a loss. He urged farmers to keep records of each cow's production and to weed out the star boarders.[49] But, production records were not likely to help the man whose whole herd was scrubs. A. M. Bowman, of Augusta county counselled dairymen to abandon scrubs and buy pure-bred stock. More practical was his alternative suggestion: the use of a pure-bred bull to upgrade native herds.[50] Probably few Virginia farmers could have afforded to send the scrub string to the shambles and begin over again with costly blooded cattle. One critic maintained that Southern farmers failed to see that the bull was half the herd, and therefor refused to pay the higher price for a good bull, preferring cheap

grub sires.[51] So long as this attitude prevailed, average production was found to remain low. The Chief of the Bureau of Animal Industry, United tates Department of Agriculture, D. A. Melvin, felt that low average production as the major inhibitor to the development of a profitable Southern dairy industry.[52]

The question is, why were Virginia's native cows in the late 1800's and arly 1900's such pikers? Working dairymen blamed the galled, brush-choked astures of the state. While they agreed that quality stock might be nice, hey pointedly asked how fine cows could be expected to make a living on broom-edge and sheep sorrel. Yet, nearly everyone had a favorite breed that would out-perform all others at the pail and churn on less feed and care. In the 1870's, many sang the praises of dual purpose breeds such as Devons and Milking Shorthorns. A Fredericksburg dairy farmer wryly proposed that if Durham cows, which he disliked, tried to subsist on typical Eastern Virginia pastures "...before the ides of March there will be a plentiful crop of hides to spread on the roof of the well-filled corn-house..."[53] Why did it not occur to him that there was a better way to get those cows' hides over that corn? J. F. Jackson, editor of The Southern Planter, preferred the Ayrshire breed. The red and white Scottish cows were best for the sparse pastures and poor soil of Virginia. They would make milk where Jerseys and Shorthorns became bags of bones. Admittedly they were not butter queens, but they had an excellent record in the whole milk market. However, he conceded that they became unthrifty in the hands of careless farmers.[54] In 1900, ten years after Jackson opened his campaign in behalf of the Ayrshire cow, there was not one representative of the breed in Virginia; twenty years later Virginia had twenty-five Ayrshire cattle.[55]

From 1890 to 1915, three dairy breeds predominated in Virginia. Especially popular all over the South was the Jersey cow. Famous for her rich milk, she was the darling family cow. However, too many of the Jerseys in the South were kept for their pedigrees instead of their performance at the pail.

a fawn and white Guernsey cow, larger than the Jersey, was also celebrated as butter producer. It was said that a single Guernsey could give color and richness to the butter and milk of a dozen poorer cows. A heavier milker than the little Jersey, the Guernsey still had fewer devotees. It was the big, docile, black and white Holstein cow that satisfied best the requirements of the whole milk dairyman. Some of these cows gave forty to sixty pounds of milk a day. Butter made from Holstein milk was pale, and Holsteins were at a disadvantage in butter districts. On the other hand, these gentle giants prospered in the south, and were unexcelled where stabling and regulated feeding were practiced.[56] Holstein cattle became the leading dairy breed in the Old Dominion.

However, as has already been said, it was often impossible for the beginning dairy farmer to purchase a pure-bred herd. At the same time, he could not expect to get rich milking scrubs. Needed was a means to raise the lactation of native herds quickly, yet at little cost. As early as eleven years after Appomattox, upgrading herds by the use of pure-bred sires was advanced as a solution.[57] By the turn of the century, the practice of breeding a pure-bred dairy bull over native cows and keeping the best heifer calves as replacement stock had become accepted.[58] After a few generations of breeding back to pure-bred dairy sires, grade stock took on the physical as well as lacteal qualities of dairy cattle. The practice was so successful that by 1910 beginning dairymen were being advised to purchase good, local, grade cows, which were said to be available at $30 to $40 a head.[59] A Nelson county dairyman advised that it was also safer to buy local stock, or raise replacement heifers than to bring in "New York" cows, which were discovered with dismaying frequency to be poor milkers, or carriers of dread tuberculosis and Bang's disease.[60] By 1910, too, the Virginia Polytechnic Institute made it easy for a farmer to own a pure-bred bull. The college regularly advertised for sale bull calves from its Holstein, Jersey, and Guernsey herds. Interested dairymen were instructed to write the

rdsman at the college for particulars.[61] The dairy herds at Virginia Polytechnic stitute carried some of the finest bloodlines in America, including the Clothilde d Artis strains of Holsteins. The head of the college's Jersey herd was a son T. S. Cooper's $10,000 World's Fair champion bull, Pedro.[62]

Individual dairymen also owned fine herds. At Meadow Farm in Orange county, lstein cows of such famous bloodlines as Clothilde, DeKol, and the Hollins stitute herd shared pasture with a Hollins bull sired by Pontiac Korndyke, re of the world record butter cow Pontiac Clothilde DeKol 2nd. J. R. Beuchler of esburg owned a milking herd of twenty-three Holsteins, mostly of Netherland, ggie, and Pieterje breeding.[63] Certainly these men sold stock, especially extra ll calves, to their neighbors, thereby improving the average quality of their mmunity's dairy herds. A few men, such as A. M. Bowman, owner of Bowmont Farms, Salem, Virginia, specialized in prize breeding stock. The Bowmont Farms Jersey erd was the cream of Virginia's fine cattle. Bowman bought heavily of stock t the annual sales held by T. S. Cooper and Son, of Coopersburg, Pennsylvania. In 1905, Bowman procured the imported bull, Eminent 2nd from George Peer, who had outbid him at the Cooper's sale. For this animal he paid over $10,000. The Bowmont Farms herd included many cattle of the superb St. Lambert line.[64] In 1880, Colonel C. R. Ramsdell of Montrose Farm, Chesterfield county, gave $500 for a Jersey cow.[65] Most of the men who bought such fancy stock were breeders, and milk making was not their objective. However, at Thorncliff Stock Farm in Goochland county Joseph Reid Anderson, Jr., of Tredegar Iron fame had a fine Jersey herd. Anderson insisted that a cow be kept for her pro - duction record, not her color or pedigree.[66]

Most of the working dairy herds in Virginia consisted of a humbler grade of cows. Typical was the Bellwood Holstein herd. Begun with a pure-bred bull and a few grade cows, by 1910 it contained about one-hundred-fifty grade and pure - bred animals, ninety-eight per-cent of which were raised on the farm. The

ilking herd averaged seventy-five cows, and the farm shipped approximately wo-hundred gallons of milk daily. The best cows gave about six gallons of ilk per day.[67]

By 1910, a Virginia dairyman could purchase good, Virginia-bred dairy nimals to improve his herd. A survey of selected classified advertisements n The Southern Planter from February 1909 to April 1918 indicates that prices ere not unreasonably high. Holstein bull calves sold for $35 to $65; Jersey ull calves were priced slightly higher. Mature bulls were more expensive, but he highest price asked for a registered Holstein sire was only $250. Jersey ulls could be had for $50 to $140. Dairy cows commanded $50 to $100 each.[68]

Another practice that led to higher production was weighing and testing ach cow's milk and keeping production records. The introduction of the simple, inexpensive Babcock tester made it easy for even the three or four cow dairyman to test for butterfat content.[69] Farmers were able to discover which cows were unprofitable, and could dispose of them. Apparently, individual efforts to improve herds were numerous and often met with success, for by 1904 the Yearbook of Agriculture reported that compared with other parts of the United States the quality of Southern dairy cows was "already quite satisfactory..."[70]

Government sponsored programs were initiated to help dairymen improve herds after 1905. In 1907, the Secretary of Agriculture reported that Congress had appropriated funds to help Southern dairy farmers in farm and herd improvement projects. According to the Secretary, the program was welcomed by the traditionally independent farm folk.[71] Dairy Herd Improvement Associations (DHIA) were initiated under the guidance of federal and local personnel. A Virginia farmer enrolled his ninety-one cow herd in a Dairy Herd Improvement Association and learned that his average net income per cow was only sixty-four cents yearly. Following recommended practices, the same farmer, in seven years, developed a herd of fifty-four excellent cows, each earning for him an annual

profit of $147.07. Two-hundred-eighty-four cows like those in the original herd would have been needed to match the income from one of his new dairy queens.[72]

The Virginia General Assembly created the post of Dairy Commissioner in 1908. On March 12 of the same year the General Assembly passed another act, establishing the State Livestock Control Board. Designed to eradicate tuberculosis from Virginia dairy herds, the board worked to protect Virginia's farmers from being sold infected animals from out of state. The board issued an order requiring all cattle brought into Virginia for dairying or breeding purposes to have passed a tuberculin test within four months prior to shipment. Each animal was made to be certified as having passed the test before a qualified veterinarian in the state of origin. A stiff fine up to $5,000 was specified for any railroad, navigation company, or common carrier convicted of evading the statute; in addition, losses through infection of Virginia livestock caused by illegal importations could be assessed against guilty importers.[73]

Private industry also helped Virginia dairymen. In an effort to encourage dairying, the Southern Railway hired a "highly qualified expert dairyman, who [was to] seek to encourage the industry" by offering farmers information and practical advice.[74] the railway's motives were not altogether altruistic; it stood to benefit from a strong Virginia dairy industry through transportation of cattle and milk products.

Natural advantages of climate and soil, the ready market, postbellum agricultural woes, and encouragement from federal and state officials, the agricultural press, industry, and agricultural colleges promoted a strong dairy industry in Virginia. Milk cow numbers in Virginia advanced from 238,000 head in 1878 to 359,000 head in 1916. Value per head of dairy stock more than doubled from 1878 to 1915. In the same period, non-dairy cattle increased from 431,000 head to 450,000 head.[75] Records from Chesterfield county manifest a relation between dairy farms and prosperity. From 1890 to 1910, the number of dairy cows on Chesterfield farms increased fifty-one per-cent. At the same time,

county swine numbers gained just ten per-cent, while beef cattle and sheep registered sharp declines. Corn and hay, both dairy-associated crops, spread onto new acres, while small grains and tobacco lost ground. The number of farms rose thirty per - cent, but farm acreage dropped by 20,000 acres. Yet, there were 4,000 more improved acres in 1910 than there had been in 1890, and farm values had leaped a phenomenal one-hundred-fourteen per-cent. A long look at these figures discloses the following: of all types of farming, only dairying increased significantly; while farm acreage declined, improved farm acreage and farm values rose; and only dairy-related crops were grown more extensively in 1910 than in 1890.[76] It would be very difficult to disassociate the greater prosperity and crop diversification of 1910 from the introduction of dairying. Even the increased numbers of swine in the county may be traced to dairying, since it was customary to fatten market hogs on skim milk which was left over after seperating the cream from raw milk.

Real estate prices from February, 1909 to August, 1914 support the conclusion that dairy farming led to greater farm worth. During that time span, dairy farms listed in selected volumes of The Southern Planter for $41 to $57 per acre. Other type farms were offered for $15 to $50 per acre (the farm for sale at $50 per acre was advertised as the best farm in Amelia county, and was therefor non-typical. If we exclude it from the study, the average asking price for the other thirteen farms was $22 per acre).[77]

Perhaps the finest compliment to the dairy farm for its role in helping to rescue Virginia farmers from one-croppism, the stifling credit system, and agricultural stagnation, and placing them back on the road to prosperity came from Richmond novelist Ellen Glasgow. In her 1925 novel, Barren Ground, Miss Glasgow chose the theme of prosperity in the wake of dairying to help tell a tale of victory through perseverence in the face of great odds.[78] What deeper acknowledgement can a region offer an institution than to recognize it in its native literature?

By 1914, there were more than 2,500 dairy farmers in Virginia. The majority of dairy farms were concentrated near large towns and cities. Charlottesville, Staunton, and Waynesboro each had nearly one-hundred dairies nearby; in the Richmond area alone there were one-hundred-twenty-four dairy farms.[79] Virginia farmers were trying hard to assert their right to Virginia's milk products market. Across the state dairy farms were reviving worn-out land, offering steady incomes and escape from tobacco and the crippling credit system to farmers, and bringing prosperity to rural communities. In the Old Dominion, the dairy cow had found a home.

FOOTNOTES

[1]The Southern Planter, Vol. XIX, No. 3 (March, 1859), 129, 130.

[2]Herbert C. Nixon, Forty Acres and Steel Mules (Chapel Hill: University of North Carolina Press, 1938), p. 18.

[3]"The Importance of Live Stock," The Southern Planter, Vol. 54, No. 3 (March, 1893), 135, 136.

[4]W. W. Finley, "The Dairying Possibilities of the South," The Southern Planter, Vol. 72, No. 8 (August, 1911), 867. Henry Thorne, "The South As a Dairy Country," The Southern Planter, Vol. 73, No. 9 (September, 1912), 959, 960. Samuel R. Redd, "Ups and Downs In Dairying," The Southern Planter, Vol. 73, No. 10 (October, 1912), 1062. "Dairying As It Relates to Fertility," The Southern Planter, Vol. 69, No. 3 (March, 1908), 222, extracted from an article in Hoard's Dairyman.

[5]Samuel R. Redd, "Dairy Farm Management," The Southern Planter, Vol. 73, No. 9 (July, 1912), 761.

[6]Andrew W. Soule, President of the Georgia State College of Agriculture, "Establishing A Dairy Herd," The Southern Planter, Vol. 71, No. 12 (December, 1910), 1215.

[7]W. W. Finley, "The Dairying Possibilities of the South," p. 866.

[8]J. W. Ingham, "Dairying In the South," The Southern Planter, Vol. 60, No. 12 (December, 1899), 586. Henry Thorne, "The South As a Dairy Country," p. 960. Andrew W. Soule, "Establishing A Dairy Herd," p. 1216.

[9]Henry Thorne, "The South As a Dairy Country," p. 959. Andrew W. Soule, "Establishing A Dairy Herd," p. 1215. A. Jeffers, "The Need of Dairy Husbandry In the South," The Southern Planter, Vol. 72, No. 8 (August, 1911), 865.

10 Reasons for buying a Virginia Dairy Farm: the Bulletin of the Depart - ment of Agriculture and Immigration of Virginia (Richmond: Superintendent of Public Printing, 1915), pp. 17 - 33.

[10] A. Jeffers, "The Need of Dairy Husbandry In the South," p. 865. Henry Thorne, "The South As a Dairy Country," p. 962. "Dairy Farming In Chesterfield," The Southern Planter, Vol. 52, No. 1 (January, 1891), 9.

[11] H. E. Alvord, "Cows Profitable In Virginia," Report of the State Board of Agriculture of Virginia, 1899 (Richmond: Superintendent of Public Printing, 1899), p. 60.

[12] "Forest Home Dairy Farm, Loudoun Co., Va.," The Southern Planter, Vol. 64, No. 11 (November, 1903), p. 700.

[13] Report of the State Board of Agriculture of Virginia, 1888 (Richmond: J. W. Fergusson & Sons, 1888), p. 37. The report noted that no information was included for the cities of Richmond, Petersburg, and Lynchburg, and the counties of Henrico, Campbell, and Dinwiddie.

[14] H. E. Alvord, "Cows Profitable In Virginia," pp. 56, 57.

[15] A. Jeffers, "The Need of Dairy Husbandry In the South," p. 865. W. W. Finley, "The Dairying Possibilities of the South," p. 867. T. O. Sandy, "Profit In Dairying," Richmond Times, quoted in Report of the Commissioner of Agriculture of Virginia, 1902 (Richmond: Superintendent of Public Printing, 1902), p. 90.

[16] H. E. Alvord, "Cows Profitable In Virginia," p. 58. Andrew W. Soule, "Es - tablishing A Dairy Herd," p. 1216.

[17] 10 Reasons for buying a Virginia Dairy Farm, p. 33.

[18] Henry E. Alvord, "Dairying In the South," The Southern Planter, Vol. 63, No. 1 (January, 1902), 15. Alvord was Chief of the Dairy Division, United States Depart- ment of Agriculture, in 1902. Andrew W. Soule, "Establishing A Dairy Herd," p. 1216. G. H. Dacy, "Milk From Pasture," The Country Gentleman, June 5, 1915, p. 977.

[19] Henry E. Alvord, "Dairying In the South," p. 15.

[20]Samuel R. Redd, "Dairy Farm Management," p. 761. Shepherd, "The Meadow Farm," The Southern Planter, Vol. 72, No. 8, (August, 1911), 866. No initials were given with the name of the author of the article. "Farming In South-Side Virginia," The Southern Planter, Vol. 64, No. 11 (November, 1903), 687, 688.

[21]W. D. Saunders, "Prospects For Dairying In Virginia," The Southern Planter, Vol. 70, No. 2 (February, 1909), 126, 127.

[22]A. F. Howard, "Labor and Dairying," The Southern Planter, Vol. 75, No. 8, (August, 1914), 605.

[23]"Are Creameries Beneficial To Farmers?", The Southern Planter, Vol. 66, No. 7 (July, 1905), 535.

[24]W. K. Brainerd, "Dairy Progress In Virginia," The Southern Planter, Vol. 70, No. 6 (June, 1909), 594. Mr. Brainerd was the Dairyman at the agricultural Experiment Station, Blacksburg, Virginia. Editorial, The Southern Planter, Vol. 70, No. 6 (June, 1909), 594, (appended to the Brainerd article as an editorial comment). U.S., Department of Agriculture, Yearbook of the Department of Agriculture, 1904 (Washington, D.C.: Government Printing Office, 1905), pp. 187-189. A. F. Howard, "The Farmville Creamery," The Southern Planter, Vol. 71, No. 12 (December, 1910), 1217. Howard, later a creamery inspector for the Virginia Department of Agriculture and Immigration, was, in 1910, manager of the Farmville Creamery.

[25]L. B. Wallace, "The Creamery Promoter," The Southern Planter, Vol. 74, No. 1 (January, 1913), 17, 18.

[26]Albert R. Bellwood, "Albert R. Bellwood's Book," (journal in which Albert R. Bellwood recorded operations at Bellwood Farm), p. 5.

[27]"Milking By Machinery," The Southern Planter, Vol. 53, No. 7 (July, 1892), 397.

[28]Mrs. Margaret Bellwood Wray, personal interviews, April 1 & 7, 1969. Mr. Drewry Fendley, personal interview, March 21, 1969. Mrs. Wray is the daughter of Albert R. Bellwood, and grew up on Bellwood Farm; Mr. Fendley is a retired employee of Bellwood Farm.

[29]A. F. Howard, "Labor and Dairying," pp. 604, 605. Andrew W. Soule, "Es - ablishing A Dairy Herd," pp. 1215, 1216.

[30]Mrs. M. S. Canavarro, "Complaints About Dairying From Nottoway Co., Va.," The Southern Planter, Vol. 72, No. 8 (August, 1911), 863.

[31]A. L. Higgins, "How The Dairy Cow Brought Prosperity In The Wake Of The Boll Weevil," in Yearbook of Agriculture, 1917 (Washington, D.C.: Govern - ment Printing Office, 1918), p. 307.

[32]F. H. LaBaume to the Secretary of the Board of Health, Suffolk, Virginia, reprinted under the title "Dairying Hindrances In Virginia," The Southern Planter, Vol. 72, No. 8 (August, 1911), 869.

[33]Ibid., p. 870.

[34]Editorial comment, The Southern Planter, Vol. 72, No. 8 (August, 1911), 870, appended to article entitled, "Dairying Hindrances In Virginia." "Dairying In Virginia," The Southern Planter, Vol. 70, No. 6 (June, 1909), 590.

[35]"Dairying In Virginia," The Southern Planter, p. 590.

[36]Albert R. Bellwood, "Book," p. 5.

[37]"Holsteins In Nottoway Co., Va.," The Southern Planter, Vol. 63, No. 7 (July, 1902), 409.

[38]Cephas N. Stacy, "Enterprise On A Virginia Farm," The Southern Planter, Vol. 52, No. 3 (March, 1891), 134, 135.

[39]"Farming That Pays," The Southern Planter, Vol. 53, No. 7 (July, 1892), 387. James Bellwood was an outspoken opponent of commercial fertilizers. However, he probably was brought to his critical opinion because, in the late 1800's and early 1900's unscrupulous merchants sold cheap, low analysis fertilizers that were not worth their price; in extreme cases, the so - called fertilizer was nothing but sand and fillers.

[40]Mrs. Margaret Bellwood Wray.

[41]C. T. Price, "What One Young Virginia Farmer Has Done In Dairying," The Southern Planter, Vol. 72, No. 8 (August, 1911), 868, 869.

[42]George Collins, "A Successful Dairy Man And Farmer," The Southern Planter, Vol. 79, No. 4 (April, 1918), 236.

[43]Ibid., p. 236. Professor Dean, The Farmers' Advocate, quoted in "The Value of the Dairy Industry," The Southern Planter, Vol. 54, No. 12 (December, 1893), 994.

[44]G. H. Dacy, "Milk From Pasture," p. 977. Auburn Chase: Description With Views of Auburn Chase, One of the Finest and Most Productive Farms in Virginia, p. 6. A brief pamphlet about Bellwood Farm which bears no date or place of publication, or publisher's name, printed on good quality paper, and apparently an "agricultural gospel" text. "Bellwood Farms Department Plan," unidentified clipping in Albert R. Bellwood's "Scrapbook." Albert R. Bellwood, "Book," p. 8.

[45]H. R. Smith, "The Coming of the Silo," The Southern Planter, Vol. 73, No. 9 (September, 1912), 963. O. D. Belding, "Ensilage And Silos," The Southern Planter, Vol. 63, No. 3 (March, 1902), 141. "Bellwood Farms Department Plan," unidentified clipping in Albert R. Bellwood's "Scrapbook."

[46]"Winter Dairying," The Southern Planter, Vol. 57, No. 11 (November, 1896), 491, 492. "Winter Dairying," The Southern Planter, Vol. 52, No. 12 (December, 1891), 669.

[47]"The Winter Care Of Stock," The Southern Planter, Vol. 52, No. 11 (November, 1891), 606, 607. "House the Stock," The Southern Planter, Vol. 57, No. 11 (November, 1896), 491. Mrs. Margaret Bellwood Wray.

[48]Higgins, "How The Dairy Cow Brought Prosperity In The Wake Of The Boll Weevil," Yearbook of Agriculture, 1917, p. 305. "Scrub Stock," The Southern Planter, Vol. 52, No. 3 (March, 1891), 113.

[49]Henry E. Alvord, "The Dairy Breeds of Cattle," The Southern Planter, Vol. 64, No. 1 (January, 1903), 12. Andrew W. Soule, "The Need of Better Dairy Cows In the South," The Southern Planter, Vol. 72, No. 8 (August, 1911), 864, 865.

[50]A. M. Bowman, "Improve Your Stock," The Southern Planter And Farmer, ol. XXXVII, No. 1 (January, 1876), 56.

[51]"Live Stock In the South Atlantic Coast States," The Southern Planter, ol. 69, No. 3 (March, 1908), 219.

[52]W. W. Finley, "The Dairying Possibilities of the South," p. 867.

[53]A. P. Rowe, "A Talk On Cattle -- Which Are the Best Breeds?" The Southern lanter And Farmer, Vol. XXXVII, No. 3 (March, 1876), 205, 206. Samuel R. Redd, Dairy Farm Management," p. 761. P. B. Pendleton, "Improved Breeds Generally, nd Scrubs In Particular," The Southern Planter And Farmer, Vol. XXXVII, No. 5 May, 1876), 376, 377.

[54]"The Dairy Cow Best Adapted For Virginia," The Southern Planter, Vol. 51, o. 12 (December, 1890), 560. "The Dairy Cow," The Southern Planter, Vol. 52, o. 3 (March, 1891), 112, 113. H. E. Alvord, "The Dairy Breeds of Cattle," pp. 12, 13.

[55]E. Parmalee Prentice, American Dairy Cattle: Their Past And Future (New York: Harper & Brothers Publishers, 1942), pp. 240, 242.

[56]Henry E. Alvord, "The Dairy Breeds of Cattle," pp. 13-16.

[57]"Selecting Bulls For Improving Milkers," from Practical Farmer, in The Southern Planter And Farmer, Vol. XXXVII, No. 5 (May, 1876), 377.

[58]H. E. Alvord, "Cows Profitable In Virginia," pp. 56-61. J. B. Loomis, "Get a Pure Bred Sire," The Southern Planter, Vol. 73, No. 9 (September, 1912), 956.

[59]Andrew W. Soule, "Establishing A Dairy Herd," p. 1216.

[60]A. G. Ingham, "Some More Hindrances To Dairying In Virginia," The Southern Planter, Vol. 73, No. 3 (March, 1912), 289, 290. While Ingham specified New York cattle, it is known that cattle from Illinois and Wisconsin, Pennsylvania, and New Jersey, and probably other states frequently were tuberculous.

[61]The Southern Planter, Vol. 75, No. 6 (June, 1914), 484; Vol. 73, No. 3 (March, 1912), 356; Vol. 75, No. 8 (August, 1914), 617; Vol. 74, No. 1 (January, 1913), 71; Vol. 72, No. 8 (August, 1911), 904; Vol. 71, No. 12 (December, 1910), 1267; and others.

[62]D. O. Nourse, "Pure-Bred Cattle At the Virginia Experiment Station," The Southern Planter, Vol. 62, No. 1 (January, 1901), 29.

[63]Shepherd, "The Meadow Farm," p. 866. J. R. Beuchler, "Holstein-Friesians," The Southern Planter, Vol. 58, No. 2 (February, 1897), 69. For a discussion of the important Holstein families in America, see E. Parmalee Prentice, American Dairy Cattle: Their Past And Future (New York: Harper & Brothers Publishers, 1942), pp. 148-152.

[64]"More Fine Jerseys For Virginia," The Southern Planter, Vol. 66, No. 7 (July, 1905), 528, 529. F. R. Hicks, Jersey Bulletin, February 27, 1901, reprinted as "Another Bull At Bowmont Farms," The Southern Planter, Vol. 62, No. 5 (May, 1901), 292.

[65]Editorial, The Southern Planter And Farmer, Vol. 41, No. 10 (October, 1880), 467.

[66]"Jerseys At Thorncliff Stock Farm," The Southern Planter, Vol. 52, No. 5 (May, 1891), 237, 238.

[67]"The Wonderful World of James Bellwood," The Elkhorn, p. 12. G. H. Dacy, "Milk From Pasture," p. 977.

[68]The Southern Planter, survey of classified advertisements from February, 1909 to April 1918.

[69]"Winter Dairying," The Southern Planter, Vol. 57, No. 11 (November, 1896), 492. Samuel R. Redd, "Dairy Farm Management," p. 762.

[70]Yearbook of Agriculture, 1904, p. 189.

[71]U.S., Department of Agriculture, Yearbook of the Department of Agriculture, 1907 (Washington, D.C.: Government Printing Office, 1908), pp. 36, 37.

[72]J. C. McDowell, "Butterfat And Income," Yearbook of The United States Department of Agriculture, 1917 (Washington, D.C.: Government Printing Office, 1918), p. 359. J. C. McDowell, Dairy-Herd-Improvement Associations And Stories The Records Tell, United States Department of Agriculture Bulletin No. 1604 (revised from October, 1929; Washington, D.C.: Government Printing Office, June, 1937), p. 7.

[73]J. G. Ferneyhough, "Tuberculosis In Cattle," The Southern Planter, Vol. 70, No. 6 (June, 1909), 595.

[74]W. W. Finley, "The Dairying Possibilities of the South," p. 867.

[75]U.S., Department of Agriculture, Department of Agriculture: Report, 1878 (Washington, D.C.: Government Printing Office, 1879), pp. 273, 274. U.S., Department of Agriculture, Yearbook of The Department of Agriculture, 1916 (Washington, D.C.: Government Printing Office, 1916), p. 672. U.S., Department of Agriculture, Yearbook of The Department of Agriculture, 1914 (Washington, D.C.: Government Printing Office, 1915), p. 622.

[76]Agricultural Extension Service, County Trend Sheet, Chesterfield County, Virginia (Blacksburg: Virginia Polytechnic Institute, 1947), p. 1.

[77]The Southern Planter, survey of classified advertisements from February, 1909 to August, 1914. The possibility that some of the general farms may have been dairy farms cannot be discounted. Often, a listing simply gave the facts that a farm of a given acreage was for sale, and the location, and did not identify the type of farm. However, all farms included in the survey as dairies were so identified in the advertisements.

[78]Ellen Glasgow, Barren Ground (New York: Random House, 1925), 409 pp.

[79]Virginia Department of Agriculture And Immigration, Dairy and Food Division, List of Dairymen Verified to January 1, 1914, Bulletin No. 35 (Richmond: Superintendent of Public Printing, 1914), pp. 1-27.

ANNOTATED BIBLIOGRAPHY

imary Sources:

llwood, Albert R. "Albert R. Bellwood's Book." (Journal in which Albert R. Bellwood recorded operations at Bellwood Farm), December 29, 1894 - November 25, 1926.

A working plantation ledger, Bellwood's "Book" provides a look at the dairy farm through the eyes of a dairyman. Bellwood was a meticulous man; his plantation ledger reflects this attention to detail.

ndley, Drewry. Chesterfield county, Virginia. Personal interview, March 21, 1969.

Mr. Fendley, who is nearly ninety years old, worked on the Bellwood Farm. His recall of his years at Bellwood is very good.

lasgow, Ellen. Barren Ground. New York: Random House, 1925.

Miss Glasgow, a native of Richmond, Virginia, was one of the best-known novelists of the New South. Her novel Barren Ground speaks eloquently of the rural poverty and agricultural depression that gripped much of Virginia between Reconstruction and World War I.

he Southern Planter. Vol. XIX, No. 3 (March, 1859)-Vol. 79, No. 8 (August, 1918).

Not all issues of this journal were cited in doing this paper. The Southern Planter is a reliable guide to main currents in Virginia agriculture from 1839 to the present. In past years, including the span covered in this paper, subscribers contributed letters and articles to The Southern Planter. Hence, it provides a means to discover the opinions and views of Virginia's farm community. It must be noted that the title of the journal varies from The Southern Planter to The Southern Planter And Farmer.

0 Reasons for buying a Virginia Dairy Farm: the Bulletin of the Department of Agriculture and Immigration of Virginia. Richmond: Superintendent of Public Printing, 1915.

A pamphlet intended to lure prospective dairy farmers to Virginia, similar in nature to Chamber of Commerce publications of the present. It is not objective; however, objectivity was not its purpose. Still, it does not present false information, but simply fails to mention the bad with the good.

irginia Department of Agriculture And Immigration, Dairy and Food Division.

List of Dairymen Verified to January 1, 1914. Bulletin No. 35. Richmond: Superintendent of Public Printing, 1914.

The list is very detailed, containing mailing addresses for dairymen throughout Virginia. Some of the names on the list are those of persons in dairy-associated fields who may not have been active dairymen. The list is helpful in discovering the areas of Virginia with the greatest concentration of dairymen. However, there can be no doubt that many dairymen in Virginia at the time of the list's publication are not included in the list; those listed probably were on mailing lists for information distributed by the Dairy and Food Division and other agencies of the Virginia Department of Agriculture And Immigration.

ay, Mrs. Margaret Bellwood. Richmond, Virginia. Personal interviews, April 1 & 7, 1969.

Mrs. Wray, daughter of Albert R. Bellwood of Bellwood Farm, was most helpful in providing information on operations and practices at Bellwood Farm. She was kind enough to lend the writer her father's plantation journal, scrapbook, and other papers, from which much information on the farm was gleaned.

Secondary Sources:

gricultural Extension Service. County Trend Sheet, Chesterfield County, Virginia. Blacksburg: Virginia Polytechnic Institute, 1947.

The county trend sheet for Chesterfield contained statistics for crops, livestock, farms, acreage, and farm value beginning in 1890. Chesterfield county underwent a major change, agriculturally, from about 1890 to 1920. During these years, dairying became one of the leading farm enterprises in Chesterfield. The figures in the trend sheet are, therefor, of special interest to anyone studying the rise of Virginia's dairy industry.

lvord, H. E. "Cows Profitable In Virginia." Report of the State Board of Agriculture of Virginia, 1899. Richmond: Superintendent of Public Printing, 1899. p. 60.

Alvord was one of the pioneer champions of a Virginia dairy industry. By 1902, he was Chief of the Dairy Division of the United States Department of Agriculture. He had a thorough knowledge of dairying and its problems in Virginia.

uburn Chase: Description With Views of Auburn Chase, One of the Finest and Most Productive Farms in Virginia. 23 pp.

Apparently meant to perform the function of an "agricultural gospel."

It describes the prosperity that accompanied dairying at "Auburn Chase." Although it bears no publisher's name, or time or place of publication, it may have been printed by the Commonwealth of Virginia; at one time, the Bellwood farm was regarded as the finest in Virginia, and the Bellwoods cooperated closely with the Virginia Department of Agriculture And Immigration to encourage Virginia farmers to adopt new types of agriculture, and new farming techniques.

Bellwood, Albert R. "Scrapbook."

Albert Bellwood's "Scrapbook" contains numerous clippings and articles, most of which pertain to the Bellwood family and farm. Most of the clippings and articles are undated and unidentified as to source; where identification has been possible, it is indicated in the footnote.

Dacy, G. H. "Milk From Pasture." The Country Gentleman, June 5, 1915, p. 977.

The Dacy article covers farming procedures at Bellwood Farm. It is typical of most such articles in agricultural journals, and tells how good yields are made, and what innovative approaches have been taken on the farm. Such articles were printed so that farmers could learn of and apply improved management practices on their farms. The article provided insight into features of a Virginia dairy farm in the early twentieth century.

Higgins, A. L. "How The Dairy Cow Brought Prosperity In The Wake Of The Boll Weevil." Yearbook of The United States Department of Agriculture, 1917. Washington, D.C.: Government Printing Office, 1918. pp. 303-310.

A report of how dairying, properly carried on with the help of agricultural extension agents, restored an old cotton district to prosperity after it was almost ruined by the boll weevil. The article argues for the use of improved dairy practices and better cows. Its value lies in presenting the methods which were urged on Southern dairy farmers to improve their cattle and production in the second decade of the twentieth century, as well as its description of the quality of dairy cattle in the South at that time.

McDowell, J. C. "Butterfat And Income." Yearbook of The United States Department of Agriculture, 1917. Washington, D.C.: Government Printing Office, 1918. pp. 357-362.

The article argues for careful selection of breeding stock to improve production efficiency of the dairy. It includes examples of the work of Dairy Herd Improvement Associations, including an example from Virginia.

McDowell, J. C. Dairy-Herd-Improvement Associations And Stories The Records Tell. United States Department of Agriculture Bulletin No. 1604. Revised from October, 1929. Washington, D.C.: Government Printing Office,

June, 1937.

A farmer's bulletin, meant to give the farmer information on Dairy Herd Improvement Associations, and to encourage farmers to form such associations. It contains case histories of farms, herds, and cows en - rolled in DHIA (Dairy Herd Improvement Associations).

Hikon, Herbert C. Forty Acres and Steel Mules. Chapel Hill: University of North Carolina Press, 1938.

A short but good study of problems besetting Southern agriculture, concentrating on the 1930's, but with background information back to Reconstruction.

Prentice, E. Parmalee. American Dairy Cattle: Their Past And Future. New York: Harper & Brothers Publishers, 1942.

Prantice, with the help of experts on the various dairy breeds of cattle, has written a detailed history of the dairy breeds. The book was of most help in tracing the ancestry of the best families of Holstein cattle in Virginia. It is very weak on dairy practices and problems, but was not written to cover those topics.

Report of the State Board of Agriculture of Virginia, 1888. Richmond: J. W. Fergusson & Sons, 1888.

Annual report of the condition of agriculture in Virginia, with reports and figures from the various counties of the commonwealth. The report fur - nished statistics on the dairy industry used in writing this paper, but little else.

Sandy, T. O. "Profit In Dairying." Richmond Times, quoted in Report of the Commissioner of Agriculture of Virginia, 1902. Richmond: Superintendent of Public Printing, 1902. p. 90.

The article represents the opinion of one of Virginia's leading dairymen on the condition and potential of the Virginia dairy industry. Sandy urged that Virginia dairymen should seize a larger share of the dairy products market of Virginia, and called for greater interest in dairying.

U.S. Department of Agriculture. Department of Agriculture: Report, 1878. Washington, D.C.: Government Printing Office, 1879.

Useful in providing statistics for the strength of the dairy cattle industry in Virginia in 1878, the report served no other function in writing this paper.

U.S. Department of Agriculture. Yearbook of the Department of Agriculture, 1904. Washington, D.C.: Government Printing Office, 1905.