Wheat, Barley, Oats, Beans, Mangel Wurzel, Swedes, and Potatoes.

7. What is the cost of a ton of Turnips?—justify your estimate by stating the particulars of the crop on which you found it.

8. Describe two or three of the best varieties of Wheat, Turnips, and Mangel Wurzel, respectively.

9. Name four of the commonest rotations of cropping adopted in England and Scotland on light and clayey land.

10. Estimate the value of an acre's produce per annum under the four and six field course of cropping respectively, stating the amount and value of the several crops per acre.

11. Name the crops in their order from which on arable land a succession of cattle food can be obtained all the year round.

12. State the quantity and kinds of the daily food of a cow in milk, and of a fatting ox respectively, under liberal treatment during autumn and winter.

13. State the distinctive characters of two of our best long-woolled breeds of sheep, and of the Southdowns, respectively.

15. Describe the three best breeds of cattle, and give the history of the Short-horns.

III.—ESTIMATE.

1. Estimate, under the heads of rent and taxes, seed, manure, labour, purchased cattle food, and loss by depreciation of live and dead stock, the annual expenditure on 100 acres of good arable land.

2. Estimate under the heads of Wheat, Barley, and increased value of live stock, the annual returns from a farm of 100 acres of good arable land, cultivated on the Norfolk rotation.

3. What will be the amount of your expenditure after harvest in rent, purchase of live stock, and manure respectively, on 100 acres of good arable land cultivated on the Norfolk system—and when must these several demands be met?

4. What kinds and quantity of stock must you purchase to consume 20 acres of Swedes and 30 acres of Mangel Wurzel during winter, the stock already on the farm being a flock of 200 ewes, to lamb in February and early in March?

5. How many hands will you, under ordinary circumstances require to get in 150 acres of Wheat, Barley, and Oats—50 acres of each—within the harvest month? And how many of them would you save by using Dray's Reaping Machine?

Home Correspondence.

The Decimal System of Measures, &c.—While the "Decimal System" of money, weights and measures is occupying so much attention, the Duodecimal, which possesses some convenient facilities, appears to have been lost sight of; but there seems no time so suitable for its reconsideration as on making another great change, which it may advance, at once, to a further degree of perfection. The number ten is divisible only by 2 and 5, neither of which is again subdivisible. The number 12 is divisible by 2, 3, 4, and 6, the 6 further subdivisible by 3 and 2; and the 4, by 2. This, running through all its multiples, produces many facilities in calculation; and applies directly to all the monetary, weight and measure divisions, by 12, 6, 4, and 3, (neither of which will come into the "Decimal System") as pence in the shilling, inches in the foot, dozens of all kinds, farthings in the penny, feet in the yard, &c., all forming true divisions of the 12. The great objection to its universal employment is, the change that it would require in our entire arithmetical system. To attain its full advantages, the cypher must come in at twelve instead of 10, and there must be eleven other figures instead of nine, thus:—

Decimal	1,	2,	3,	4,	5,	6,	7,	8,	9,	10,	11,	12.
Duodecimal	1,	2,	3,	4,	5,	6,	7,	8,	9,	χ,	μ,	10.

So 10 would signify 12, 20 twenty-four, 100 one hundred and forty-four, &c., of our present (decimal) numeration. There was, forty or more years ago, a book in which this system was worked out in examples, showing the facilities and conciseness of having so many divisors without remainders, but I have not met with it of late years, nor can I recollect the title. This outline is however perhaps better than a more elaborate exposition to introduce it to your readers, who may, if they feel interested in it, lay it open by discussion in your columns, or otherwise; and test it by appropriate calculations. *I. Prideaux.*

Keeping and Breeding of Rabbits, as a means of education and early training of youth, also for the destruction of weeds in our meadows. You some few months ago inserted in your columns a suggestion I ventured to make that at our agricultural shows premiums for rabbits should be given to youths under a limited age, with a view of encouraging and training boys in a knowledge of the economy and management of animals. Besides the practical training this would afford for the future breeding of the higher classes of animals of the farm, there would be the additional benefit of inculcating the care and knowledge demanded in feeding with proper food, and with regularity and cleanliness, animals generally. I have been in the the county of Durham, and almost wherever I go the meadows are white with the bloom of what is called in the north Homlock, but in the south of England Cow's Parsley or Hogweed, and as this is a weed of very little value indeed in hay its destruction would be an advantage. Rabbits are not only very fond of this plant, but it is the best food which can be given to them, and rabbits can eat more of it in a green state without causing any injury to their health than of any other class of green herbage, indeed so natural does the Umbelliferous vegetation seem to be to them that the poisonous lesser Hemlock they can feed upon with impunity. Cow Parsley is of early growth in the spring, and could then be pulled up out of the meadows without any injury to the Grass; and if boys were not only encouraged to keep and breed rabbits to show, but told that this plant is very good for them, it might thus be without expense eradicated out of our crops, and at the same time utilised in producing not a very bad dish for a poor man's table. If these plants were also dried they would make good winter food for rabbits, and the great abundance of them would enable a lad to collect during his unemployed hours a good store for use at that season. *W. Wooler.*

Mouse-coloured Breed of Ponies.—Mr. Charles Darwin asks if any of our readers will kindly inform him how dun or mouse-coloured ponies with a dark stripe down their back are bred. He says:—"The breed is common in Norway, on the banks of the Indus, and in the Malayan Archipelago; and in some respects very interesting in relation to the origin of the domestic horse. Is the peculiar colour thrown from ponies of any other colour, or must one or both parents be dun? Occasionally ponies of this colour have a cross stripe on the shoulder like that on the ass, and likewise bars on the legs. If any one who has bred ponies of this colour would inform me whether these stripes are more distinct in the colt than in aged ponies I should be much obliged. The transverse bars sometimes seen on the legs of the ass are said to be plainest during growth." *Ch. Darwin, Down, Bromley, Kent.*

Societies.

ROYAL AGRICULTURAL OF ENGLAND.

WEEKLY COUNCIL, *June* 10.—Mr. Raymond Barker, V.P., in the chair.

SEWERAGE-MANURE IN FRANCE.—Mr. Chadwick, C.B., called the attention of the Council to the Trial-works in Paris on the application of sewer-manure, and submitted a communication which, through want of space, we are reluctantly compelled to postpone. The Council expressed to Mr. Chadwick their best thanks for the trouble he had so kindly taken in bringing before them these results of the application of liquid manure in France.

The Earl of Clarendon transmitted communications on guano deposits on islands in the Pacific ocean, received from Mr. Thomas Rowlandson, at present residing at San Francisco, with a request that the specimen of the guano forwarded to his Lordship might be analysed. —Messrs. Burgess and Key stated that a new liquid manure hose had been introduced to their notice, apparently composed of India rubber and canvas, and of a much cheaper character than the ordinary hose, the price for the new hose (of 2 inches internal diameter) being only 1*s.* 4*d.* per foot, while the common hose is 3*s.* They also stated that they had received samples of cotton hose from America, which could be sold at a price one-third less than that now in use, namely, at 1*s.* 4*d.* per yard (of 2 inches internal diameter).—M. Revel communicated a copy of the work detailing his mode of obtaining Truffles.

The Council adjourned to their weekly meeting at 12 o'clock on Wednesday, the 17th instant, when Mr. Hartas and Mr. Chadwick would detail their experience in the employment of horse-powers, and Prof. Simonds, at 1 o'clock on the same day, would deliver a lecture on the cattle-murrain abroad.

BATH AND WEST OF ENGLAND AT NEWTON.—We have to add to our short report of last week the following list of prizes not then awarded.

SHORTHORNS.

Class VIII. Bulls 3 years old.—Gold Medal to Mr. W. Jeferys, of Maiden Bradley, Frome; Silver Medal to Mr. W. Hewer, of Highworth.

Class IX. Bulls under 3 years old.—12*l.*, to Mr. T. B. Miles, of Langford, Bristol; 5*l.*, to Mr. John Bulteel, of Flete, Ermebridge, Devon.

Class X. Bulls under 2 years old.—10*l.*, to Mr. R. Stratton, of Broad Hinton, Swindon; 5*l.*, to Mr. R. Stratton.

Class XI. Cows in calf, or in milk.—8*l.*, to Mr. R. Stratton; 4*l.*, to Mr. R. Stratton.

HORSES.

FOR AGRICULTURAL PURPOSES.

Class XLVI. Mares in foal or with foals.—10*l.*, Rev. J. G. Copleston, of Offwell, Honiton; 5*l.*, Mr. T. B. Miles, of Langford, Bristol.

Class XLVII. 2-year-old Colts.—20*l.*, Mr. H. Hitchcock, Heytesbury, Wilts; 5*l.*, Mr. I. Humphry, of East Lambrook, South Petheron.

Class XLVIII. 2-year-old Fillies.—5*l.*, to Mr. J. Anthony, of Yealmpton.

Class XLIX. Yearling Colts or Fillies.—5*l.*, Mr. T. Searell, of Bellamarsh, Chudleigh.

Class L. Mares in foal, or with foals at their sides, for Riding Purposes.—5*l.*, to Mr. R. Watson, of Dorseley, Totnes; 3*l.*, to Mr. F. Coaker, of Marldon, Totnes.

Class LI. 2 or 3-year-old Fillies.—5*l.*, to Mr. R. Watson; 3*l.*, to Mr. H. M. Northcote, of Hatherleigh

Class LII. Yearling Colts or Fillies.—5*l.*, to Mr. W. Gapper, of Duddlestone, Taunton; 2*l.*, to Mr. H. M. Northcote,

Class LIII. 2 or 3-year-old Colts or Geldings.—Silver Medal, to Mr. R. H. Watson; Bronze Medal, to Mr. E. Elliott, of Hollowcombe, Gymebridge.

PONIES.

Class LIV. Mare Ponies of any breed, not exceeding 13 hands high.—4*l.*, to Mr. W. Nosworthy, of Ford Manaton, Moreton Hampstead; 2*l.*, to Mr. W. Furneaux, of South Brent.

PRIZES FOR IMPLEMENTS.

Best Plough, 1*l.* 10*s.*, to Messrs. J. and R. Wright, Sandford, Devon; 1*l.* 10*s.*, to Mr. John Eddy, Kennford, Exeter.

Best Subsoil Plough, 3*l.*, to Mr. E. H. Bentall, Heybridge, Essex.

Best Turnwrest Plough, 3*l.*, to Mr. John Eddy.

Best Cultivator (Wide), 1*l.*, to Mr. E. H. Bentall; 1*l.*, to R. Coleman, Chelmsford; ditto (Narrow), 2*l.*, to Mr. R. Coleman.

Best Scarifier for Light Land Soil, 1*l.*, to Mr. R. Collins, Trent, Somerset.

Best Pair of Drags, 1*l.*, to Mr. John Eddy.

Best Set of Harrows, 10*s.*, to Mr. J. Eddy; 10*s.* to Messrs. A. and T. Fry, Bristol.

Best Seed Harrows, 1*l.*, to Mr. J. Comins, Southmolton.

Best Clod Crusher, 2*l.*, to Mr. J. Eddy.

Best Corn Drill, 5*l.*, to Messrs. Holmes and Sons, Norwich.

Ditto, 2*l.*, to Mr. J. L. Bowhay, Modbury.

Best Corn Drill for Small Occupations, in Hilly Districts, 5*l.*, to Messrs. Holmes and Sons.; 2*l.*, to Mr. J. L. Bowhay, Modbury.

Best Turnip and Mangel Wurzel Drill, for Ridge or Flat, depositing manure with the seed, 5*l.*, to Messrs. Reeves, Bratton, Westbury, Wilts; 2*l.*, Messrs. Holmes & Sons, Norwich.

Best General Drill (liquid manure with the seed), 5*l.*, to Messrs. Reeves.

Best General Manure Distributor, 5*l.*, to Messrs. Holmes & Sons; 2*l.*, to Messrs. Reeves.

Best Horse-hoe for Green Crops, 1*l.*, to Mr. H. Carson, Warminster.

Best Ditto on Steep Hill-sides, 2*l.*, to Mr. H. Carson.

Best Machine for Setting-out Turnips preparatory to singling, 3*l.*, to Mr. John Eaton, Thrapstone.

Best Hand Machine for filling up vacancies in Drilled Green Crops, 1*l.*, to Mr. W. C. Cambridge, Bristol.

Best Reaping Machine, 5*l.*, to Mr. J. L Bowhay; 2*l.*, to Mr. J. L. Bowhay.

Most Efficient Horse Rake, 2*l.*, to Mr. B. J. Webber, Newton Abbott.

Most Economical and practically useful portable Steam Engine, under 8-horse power, 5*l.*, to Mr. Maggs, Wincanton, Somerset.

Portable combined Steam Threshing Machine, which shall most perfectly prepare the sample for market, 10*l.*, to Messrs. Humphries, Pershore, Worcester.

Simplest and most practically useful portable combined Steam Threshing Machine, not requiring more than 6-horse power, 5*l.*, to Messrs. Humphries, Pershore, Worcester.

Simplest and most practically useful portable Threshing Machine, with Riddle and Straw-shaker, not requiring more than 3½-horse power, when worked independently of its horse gear, 5*l.*, to Messrs. Brinsmead, Great Torrington, Devon.

Best portable 4-Horse Gear, adapted for driving threshing machines, 3*l.*, to Mr. Webber.

Best Machine for Stamping Seed out of Flax, 2*l.*, to Messrs. Brinsmead.

Best Machine for Scutching Flax, 3*l.*, to Messrs. Brinsmead, Devon.

Best Adaption of the Threshing Machine for Shelling Clover, 2*l.*, to Messrs. Brinsmead.

Best Winnowing Machine, which shall be also convertible into a Simple Blower, 3*l.*, to Mr. J. Eaton, Thrapston, Northampton.

Best One-horse Cart for General Purposes, 2*l.*, to Messrs. Milford & Son, Thorverton.

Best Two-horse Waggon, 2*l.*, to Messrs. Milford & Son.

Best Chaff-cutter, worked by Horse or Steam Power, 3*l.*, to Mr. James Cornes, Barbridge, Nantwich, Cheshire.

Best Chaff-cutter, worked by Hand, 2*l.*, to Mr. James Cornes.

Best Machine for Grating or Pulping Roots, 2*l.*, to E. N. Bentall, Heybridge, Maldon.

Best Turnip-cutter, 1*l.*, to Mr. H. Carson, Warminster.

Best Corn and Pulse Bruiser, worked by Horse or Steam-power, 2*l.*, to Messrs. Turner, Ipswich.

Best Corn and Pulse-crusher, worked by Hand, 1*l.*, to Mr. Woods, Stowmarket.

Best Oilcake Crusher, 1*l.*, to Messrs. Smith & Ashby, Stamford.

Best Gorse-bruiser, 1*l.*, to Messrs. Smith & Ashby.

Best and most Economical Steaming Apparatus, 2*l.*, to Messrs. Richmond & Chandler, Salford.

Best Churn, 1*l.*, to the Rev. E. A. Ferryman, Wadenhoe, Oundle Rectory, Northampton.

Best Cheese-press, 1*l.*, to Mr. H. Carson, Warminster, Wilts.

Best Apple-mill, calculated to crush the Pips also, 2*l.*, to Messrs. Wightman & Denning, Chard.

Best Cooking Apparatus for Farm Kitchens, 2*l.*, to Mr. John Gliddon, Williton, Somerset.

Best Specimen of Substantial Fencing, 2*l.*, to Messrs. Hill & Smith, Brierly Hill, Dudley.

Weighing-machine and Sack-lifter combined, Mr. W. Sawney, Beverley, York.

Flour-mill, 10*s.*, to Messrs. Whitmee & Co., London.

Combined Crushing and Grinding-mill, 3*l.*, to Messrs. E. R. and F. Turner, Ipswich.

Scarifier for Light Lands, to be worked with One, Two, or Three Horses, 1*l.*, to Mr. R. Collins, Trent, Sherborne.

Hay Collector, Mr. S. Rowsell, Buckland Saint Mary, Chard.

The report of the Council of the Bath and West of England Society communicates the following facts:—

—— The Society will meet next year at Cardiff.

—— The Council have engaged the services of Professor George Brown, veterinary surgeon of the Royal Agricultural College, Cirencester, to fill the office of veterinary inspector.

—— Prizes have been offered for the following subjects:—

1. Farm Buildings for Small Farms, 20*l.*
2. Personal Experience on a Farm in the West of England, 20*l.*
3. Irrigation, 10*l.*
4. Sheep suited to the West of England, 15*l.*
5. Carts and Waggons, 10*l.*
6. Orchards, 10*l.*
7. Any Chemical Subject calculated to Assist the Agriculturist, 10*l.*
8. Sir W. Trevelyan has also placed at the disposal of the Council two special Prizes for Essays on the Economical, Physical, Moral, and Social Effects of Cider, more especially with reference to its use in the rural districts of Somersetshire and other parts of the West of England, as follows: For the best and approved Essay, 25*l.*; for the second best, 10*l.*

—— The entries this year at the Exhibition much exceed those of any former meeting. The number of exhibitors of stock department is 120. The stock exhibited are 131 cattle, 470 sheep, 41 horses, 40 pigs; total, 682. There are 96 exhibitors of implements and other articles. The total number of articles entered is 1100, including eight stands of manure, and occupying a space of 2200 feet of shedding.

—— Lectures have been delivered by Professor Voelcker at Bath, Exeter, Yeovil, Barnstaple, Plymouth, and Newton, on various subjects connected with agricultural chemistry. The Council have requested the professor to undertake a careful examination of the different kinds of lime and shell sand used in the West of England, and to write a report upon them, founded on careful analysis.

—— Middle-class education, which was brought under the consideration of the Society by Lord Ebrington in October, 1855, has again engaged the attention of the Council in consequence of proceedings which originated at Exeter in January of the present year. The plan was laid before the Council in February last, in the form of a correspondence with the Committee of her Majesty's Privy Council on Education, intimating the fact that two of her Majesty's Inspectors, connected with this district, had been instructed to give their assistance to the scheme. The prizes being offered to boys educated with a view to employments in agriculture, arts, manufactures, and commerce in the three counties of Somerset, Devon, and Cornwall, and