

season is reasonably wet, it may be only necessary to apply one irrigation, which should generally be at the time the grain is heading out, and if at that time the straw is long and heads well-formed, and the plant does not appear to be suffering in the least from lack of moisture, it might be better practice to omit irrigation entirely. The above remarks, of course, only hold good in respect to grain crops that are required to mature. It will scarcely be possible to apply too much water within reasonable limits to green crops, particularly if the weather is inclined to be hot.

Field Peas.—Very little data is available in regard to the proper handling of field peas under irrigation in Southern Alberta. This crop may be planted either for grain or for forage. If grown for forage, field peas are generally sown as directed in the preceding pages, and after seeding, a bushel of oats per acre is broadcasted and harrowed in. The oats tend to facilitate harvesting and also induces longer growth of vine.

It is generally best to irrigate when the peas are in blossom and again when they are past the bolting stage. When the peas are green enough to dry and hold the grain, they are cut with a mowing machine, throwing each swath out of the way. If grown for hay, the ground should scarcely be allowed to dry to any extent. Some years it will take four or five irrigations, while other years three may be found sufficient.

Certain investigations have been carried on at high altitudes in Wyoming, under the auspices of the State Experimental Station, regarding the irrigation of field peas. Of six fields, other conditions being the same, the highest yield for field peas for forage was 4.2 tons per acre, obtained with the use of water to a depth of nearly 23 inches applied in seven irrigations. The highest yield of peas, namely 34.75 bushels per acre, was obtained when about 20 inches of water in depth had been applied in four irrigations. The yield was decreased when either more or less water was used. It is concluded that a depth of a little under 20 inches of water will give best results for field peas. It should be noted that each irrigation delays the maturity of peas. It is questionable whether more than four irrigations would be advisable in Southern Alberta. The intelligent farmer will, of course, to some extent consult the texture of his sub-soil and the natural rainfall, and increase or decrease the water accordingly.

Field peas is an exceedingly profitable crop under irrigation. A net profit of \$50 per acre is easily possible under the best methods of irrigation, raising seed for market, when the market price amounts to about 3c. per pound. Pea vine forage is very highly esteemed, and should readily sell at \$10 per ton, which would realize a net profit of between \$25 and \$30 per acre for green crops.

Southern Alberta is just initiating a splendid industry in the production of Field Pea seed under irrigation. This is, at present, the only portion of the continent where peas can be grown without the destructive influence of the pea weevil. Alberta has the opportunity of supplying seed to the rest of America.

Irrigation of Root Crops.

A cardinal principle in root growing under irrigation is to follow, as soon as the soil will permit, with surface cultivation. This cannot be too strongly impressed upon those who are not experienced irrigators. It is